News From CCE

By Barb Neal, Ag Agent and Horticulture Agent for Tioga County

Winter is upon us and the time for reflection is here. One of the most enjoyable wintertime activities I do is our annual farm meeting. Very near the New Year, the family sits down around the woodstove, sips tea and reviews the past year on the farm—what worked, what did not, what to do next year. We record it all in a journal, and it is fun to read what we did in other years and how our plans for 2020 did or did not reach fruition. I can imagine when I am in my eighties and winding down the farming that I will enjoy reading the annual reports from years past.

The year 2020 was like no other year in memory, and most of us will be happy to ring in 2021 with its promise of vaccines and a return to some semblance of normalcy. One signature aspect of farming and gardening is that every year is a new start—new crops to grow, young stock being born on the farm, and old favorites growing once more in the garden. Take time this year to contemplate what works and what does not on your farm or in your garden, and plan steps to have the best experience possible next year.

Cheers, and Happy New Year!

Reminder: CFAP 2 Assistance Available for Farmers

The U.S. Department of Agriculture (USDA) announced the availability of an additional $14 billion dollars for agricultural producers who continue to face market disruptions and associated costs because of COVID-19. Signup for the Coronavirus Food Assistance Program (CFAP 2) began Sept. 21, 2020 and runs through Dec. 11, 2020. This program provides financial assistance that gives producers the ability to absorb increased marketing costs associated with the COVID-19 pandemic. Producers will be compensated for ongoing market disruptions and assisted with the associated marketing costs.

Commodities eligible for CFAP 2 payments include but are not limited to: row crops, livestock, specialty crops, dairy, aquaculture as well as additional commodities. USDA has made changes to the program and payment rates from the first round of CFAP payments. CFAP 2 payments will be made for three categories of commodities: Price Trigger Commodities, Flat-rate Crops and Sales Commodities.
For more specific information about the Chemung County Master Gardener program, please contact Jingjing Yin at 607-734-4453 or jy578@cornell.edu.

For more information about the Tioga County Master Gardener program, please contact Barb Neal at 607-687-4020 or ban1@cornell.edu.

Christmas Trees

Reprint from: http://senecacountycee.org/agriculture/christmas-trees

This time of the year, selling Christmas Trees is a big business. In 2012, New York State Ranked 8th in the country in the number of Christmas trees harvested, with over 270,000. Oregon was the largest producer of Christmas trees with over 6 million trees harvested. Even with all those trees being sold, it is estimated that 80% of American Households with a Christmas tree celebrate with an artificial tree.

According to a survey done by the National Christmas Tree Association, 85% of real trees are purchased pre-cut and 14% are cut your own. Whether you choose to purchase a cut tree or cut your own, it’s important that you choose the right variety. The most popular Christmas tree varieties in New York State are Fraser fir and balsam fir. Douglas fir used to be more popular, but many growers have switched their production to more disease resistant trees. Firs and pines can last in your house for up to a month, while spruces only last one week to ten days before drying out.

Christmas Tree Care:

When you cut your own tree, it hasn’t been sitting in a tree lot, so you can be sure you’re purchasing it fresh. If you’re buying a pre-cut tree, it’s important to make sure it hasn’t started to dry out. First, hold the tree upright and thump it on the ground— if you see a shower of needles fall off, the tree isn’t fresh. Then, check the end of the tree- a fresh tree will have some sap flowing. Finally, bend the needles slightly- fresh needles will snap back quickly.

When you bring your tree home, make a fresh cut a minimum of one quarter inch from the base of the trunk. This reopens the tree stem so it can take up water immediately. If you’re not going to decorate it right away, leave it outside in a bucket of water in a spot protected from wind and sun. When you bring it inside, immediately put it into a tree stand with a water reservoir. Do not let the water level fall below the stem or it will reseal and be unable to take up more water. Christmas trees can drink between two pints and one gallon of water per day, so check your water level daily and refill it as needed. Once you have the tree set up, don’t place it near a radiator or furnace vent, too much heat can quickly dry out your tree.

Live Christmas Trees:

Some people choose to buy a live tree with a root ball for planting outside after Christmas. If you plan to do this, you need to choose a spot to plant your tree before you purchase your tree. Make sure your spot is suitable for the variety of tree you are purchasing. Look at how much room it will have when it grows- remember that the small tree you plant now can be a very large tree in ten years. If you don’t have much space, consider a dwarf evergreen variety. You also
need to dig the hole before the ground freezes and store the dirt you dig up in a place where it will not freeze. Water your tree as soon as you get it home -the root ball must be kept moist, but not soggy. Don’t bring the tree into your house too early. The tree will stay fresh better in a cool location, sheltered from wind and sun.

Bring the tree inside a day or two before Christmas. Be sure to keep it moist and move it back outside to a cool location as soon as possible. Keep the tree in a cool, protected spot for a week before planting it in its permanent location. When planting the tree, be sure that the hole is three times larger than the root ball. Make sure the hole is not too deep. If the soil is good, you should not need additional soil amendments, just use the soil you dug up when digging the hole. Make sure you don’t plant the tree too deep. The root flair should be at or just above the surface. Sometimes nursery trees have been planted too deep so you may have to carefully remove the dirt on the top part of the root ball down to the root flair. Also be sure to remove all burlap, twine and wire baskets before planting. If you mulch the tree, be sure to leave a few inches around the trunk of the tree free of mulch.

Join the Chemung County Master Gardeners

Do you like gardening and want to improve your gardening skills and knowledge? Do you enjoy teaching and working with others? Do you want to volunteer your valuable time to help improve your community? If your answers are “Yes!” to all of these questions, become a CCE Chemung Master Gardener Volunteer!

A virtual regional Master Gardener training will be held this winter, from January to April 2021, at NO cost! The training will cover topics including soils, vegetable gardening, ornamental plants, plant pathology, pest management, etc.

A virtual program information session “Becoming a Master Gardener” will be held on Tuesday, December 1st, from 2:00 to 3:00 PM. CCE Chemung Master Gardener Coordinator Jingjing Yin will lead the presentation, followed by a Q&A session. During this presentation, attendees will learn more about the Master Gardener Program, the Master Gardener basic training course, how to apply to the program, and volunteer opportunities.

The information session is free, but registration is required. Visit https://cornell.zoom.us/meeting/register/tJAqf-uhpzguG9Gly-dVkir_AtsvO-UoHN3h to register.

The Zoom link to access the information session is provided immediately upon completion of registration in your registration confirmation email.

Cornell Cooperative Extension of Tioga County

Invites You to our 2020 Annual Meeting

Held virtually via Zoom on

Monday, December 7th from 6 - 7pm

This will be the business portion only of our typical annual celebration. Awards will be rescheduled when it is safe to socialize face-to-face. Agenda will include remarks by our Board President and our new Executive Director, unveiling of our 2020 Annual Report, introductions of new board nominees, followed by Zoom poll voting and virtual fundraising fun!

In order to vote you must be 18+ years old and a resident of Tioga County. Please provide this information when you REGISTER at: bit.ly/CCETiogaAnnualMeeting2020

For any questions, please email Tina Murphy at tlm8@cornell.edu
Taste of Chemung Gift Boxes Now Available!

This year we are taking the spirit of our annual fund-raising dinner and bringing it straight to your door!

A collection of sample sized local goods including:

- Cranberry conserve from Knapp Farm
- Maple syrup from Hilltop Maple Farm
- Honey from Nature's Way
- Maple nuts from Mann's Country Gardens
- Butternut squash from Pine Valley Farms
- Grow Your Own Microgreens kit from Nooshe Joon Farm
- An alpaca fiber product from Hidden Alpaca Farm
- An updated Buy Local Guide!

Priced at $40 each, these boxes make the perfect holiday gift for friends and family!

Your order can be picked up at the Chemung County Fairgrounds 4-H Building during scheduled pick up times or by appointment (contact Liz Alexander at (607) 734-4453 ext. 227 or ema228@cornell.edu to schedule).

As with previous years, all the proceeds from Taste of Chemung will be used to support the educational programs of our association, which include 4-H Youth Development, Agriculture, Master Gardener, EastSide Farmers’ Market, Recycling and Natural Resources, Nutrition, Chemung Volunteer Action Corps, and the Poverty Reduction Coalition. These program areas support our mission to extend the research of Cornell and the Land Grant University System along with the best local knowledge to Chemung County residents to help them improve their quality of life and communities. It must be noted, that although we are affiliated with Cornell University and receive some government funding, CCE Chemung is a separate non-profit organization led by a volunteer Board of Directors made up of Chemung County residents. Thus, we must rely on grants and fundraisers, like Taste of Chemung, to help cover the costs of our programs. Please know that your generosity and support are greatly appreciated.

From all of us at Cornell Cooperative Extension of Chemung County,

Happy Holidays!

Order at the link below or by calling Liz at (607) 734-4453 ext. 227

https://pub.cce.cornell.edu/event_registration/main/events_landing.cfm?event=TOC_GiftBox_2020_207

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You are invited to attend the **CCE Chemung 2020 Annual Meeting** Virtually Via Zoom

**Thursday, December 3rd, 2020**
**From 6:30 to 7:30 pm**

The meeting agenda will include:
1. Presentation of the CCE Chemung 2020 Annual Report
2. Election of Board Members
3. Recognition of Friend of Extension Award Recipients
   Recognition of Board and Staff Members

**To register go to:**
https://reg.cce.cornell.edu/ccechemungannualmeeting_207
You will receive an e-mail with the Zoom meeting link after you register.
For more information, contact CCE Chemung at 607-734-4453.
Do you like gardening and want to improve your gardening skills and knowledge? Do you enjoy teaching and working with others? Do you want to volunteer your valuable time to help improve your community? If your answers are “Yes!” to all of these questions, become a Master Gardener Volunteer!

A virtual regional Master Gardener training will be held this winter, from January to April 2021, at NO cost! The training will cover topics including soils, vegetable gardening, ornamental plants, plant pathology, pest management, etc.

For more information about the training and being a Master Gardener Volunteer, contact

Ariel Kirk (adk39@cornell.edu) at CCE Steuben
Roger Ort (rlo28@cornell.edu) at CCE Schuyler
Jingjing Yin (jy578@cornell.edu) at CCE Chemung
Winter and Your Backyard Chickens

https://ohioline.osu.edu/factsheet/anr-66

Sabrina Schirtzinger, Extension Educator, Agriculture and Natural Resources, Knox County

Tim McDermott, DVM, Extension Educator, Agriculture and Natural Resources, Franklin County

Raising chickens during the winter has challenges: decreased egg production, frozen water, and possible frostbite. However, there are management strategies that will keep your flock safe during the winter. Winterizing your chicken coop and daily monitoring of your chickens will help to keep your flock healthy, happy, and warm.

Choose Cold-Tolerant Breeds

There are several breeds of chickens that winter better than others. These include Ameraucanas, Ancona, Black Australorps, Black Giant, Brahma, Buff Orpingtons, Cochins, Delaware, Dominique, Langshan, New Hampshire, Plymouth Rocks, Rhode Island Red, Speckled Sussex and Wyandottes. While these breeds are noted for their hardiness in withstanding cold, note that a larger comb or wattle present in a breed or roosters of most breeds can be a location for the development of frostbite in an otherwise cold-tolerant breed. Strategies to avoid frostbite will be discussed later in this fact sheet.

Block Drafts

Check the doors and windows of the coop for drafts. Make sure the doors and windows can be sealed tightly and locked as needed to maintain temperature. Inspect your coop for holes where air, moisture, or vermin can enter. To check for holes, turn the lights on when it is dark and walk around the outside of the coop inspecting the structure for visible holes. Address repair and maintenance of the structure in the warm weather in preparation for the upcoming winter. Ensure that spray foam insulation or caulk used to seal holes is not accessible to the chickens.

If you purchased a coop with several open fenced sides, consider purchasing heavy plastic or a tarp to cover the fenced sides. This heavy tarp is an effective temporary wall to prevent wind and moisture at the ground level of the coop and can be added or removed as needed. When blocking drafts, do not completely eliminate ventilation, but control the airflow to prevent humidity and ammonia accumulation.

Maintain Ventilation

Address drafts, snow, and rain with tarps or heavy plastic being careful not to extend the material to the roofline. Photo by Annika McKillop, DVM, MspVM, DACVP, McKillop Poultry Medicine.

While most chicken breeds can tolerate cold, even sub-freezing temperatures, complications can arise when wind and moisture are accompanied with cold temperatures. It is important to protect the birds from drafts and excess wind while still allowing ventilation. Maintaining air quality in extremely cold temperatures is critical to the health of the flock.

The buildup of ammonia from litter in a tightly sealed coop can cause problems over time such as respiratory diseases. While the buildup of humidity in a poorly ventilated coop will predispose the chickens to frostbite as humid air creates more frostbite risk than drier air. If a heavy plastic tarp was used to block drafts, ensure that the sides do not extend to the roof level to

Frostbite injury is most common on combs, wattles, and feet. Photo by Sabrina Schirtzinger, OSU Extension.
prevent adequate ventilation and allow excess moisture buildup.

Increase Bedding

To prepare the coop for winter, remove all used bedding and clean the coop prior to adding a large quantity of new, dry bedding for the winter. Bedding materials may include wood shavings or chips, straw, soft hay, ground corn cobs, or shredded paper. This bedding keeps the flock warm through an insulation effect.

Deep bedding can increase humidity levels, so litter management is critical in the winter months. Check the moisture level in the coop daily; when adding large amounts of bedding you will need to clean the coop more often and regularly adjust, mix, or fluff the bedding levels to provide a warm and dry coop.

Modify Feeding

Chickens will eat less in the winter than the summer. Each laying chicken requires 2 pounds of feed per week. Dual-purpose chickens require more, where bantams will eat less. Mature laying chickens need to be fed a pellet or crumble containing 14-17 percent crude protein during the winter. Chickens enjoy scratch, which is a mixture of grains (such as oats and wheat) and cracked corn. Feed a small amount of scratch late in the day to help chickens to stay warm throughout the night as egg laying chickens need more carbohydrates for warmth and egg production.

Monitor Water

With winter weather, frozen water is inevitable. Change the water twice per day, and change the water more often on colder days to prevent freezing. Check the water source in the evening for frozen water so the birds have water available for the full 24-hour time. Even automatic waterers can freeze if not heated or insulated. Check these waterers for leaks that can contribute to increased humidity problems in the coop. Heated water bowls or containers help to keep water from freezing; however, be cautious as these devices may malfunction and cause a fire.

Encourage Egg Production

A decline or stop in egg production is natural during the winter because chickens require 14 hours of daylight. By providing 12-14 hours of light, you will help increase egg production. To provide light for the chickens, use a 60-watt incandescent lightbulb or 13-watt compact fluorescent or comparable LED bulb that is hung at approximately 7 feet with a downward reflector. This method will provide enough light for a 200-square foot coop area. Lights may be left on continuously or turned off manually or automatically with a timer.

Collecting eggs once or twice a day will help prevent eggs from freezing. Most eggs are laid in the morning. Time egg collection with water management checks. Discard eggs that have frozen and have possibly cracked.

Avoid Frostbite

Frostbite injury is most common on combs, wattles, and feet. Photo by Sabrina Schirtzinger, OSU Extension.

Injury from frostbite occurs most commonly on extremities such as feet, combs, and wattles. Frostbite causes the cells in this area to freeze, causing cell death and subsequent changes in color and texture. Gray, black, or brittle areas are indicators of frostbite.

To avoid frostbite, remove the snow from the chicken run or straw areas to protect their feet when outdoors. Inside the coop, make sure that all the chickens are able to roost off the floor at night. Roosting allows
the chicken to lie on their feet to avoid standing all night. Provide at least 6-8 inches of roost space per chicken. Roosts should be 1½ to 3 inches in diameter.

If you notice frostbite on a chicken, there are some basic treatments to attempt. Bring the animal into a warm space, slowly warming the affected extremity back to correct temperature. Do not attempt rapid warming of the affected area as this may cause further damage. Gentle use of warm—not hot—water foot soaks to warm the feet may be beneficial, but do not attempt on the comb or wattle. Monitor the affected extremities carefully for infection and contact your veterinarian if you suspect infection. In some extreme cases of frostbite, the loss of the extremity can occur.

**Heating the Coop**

Supplemental heat may or may not be necessary in the coop. Chickens are hardy animals with the ability to withstand substantial cold temperatures if drafts and excess humidity are eliminated and they can find a warm, dry spot in the coop. Prepare the chickens by allowing them to acclimate to the cold naturally as winter approaches. This builds up their natural tolerance to cold.

Insulating the coop can be an effective way to maintain warm temperatures without the need for electricity. Make sure that insulation material is not accessible by the birds. If supplemental heating is required, make sure the electrical feed to the coop is sturdy, safe, and not accessible to the chickens. Take care when using space heaters, radiant heating, or heat lamps to avoid excess heat, carbon dioxide buildup, or a fire hazard situation. Cold tolerant chicken breeds acclimated to the weather living in an insulated, dry coop with adequate ventilation do not usually need supplemental heat.

**Key Management Strategies**

Key points for keeping your flock healthy are to increase the frequency of monitoring the coop as needed to address and prevent problems promptly. Monitor for spilled feed and water. Controlled ventilation and air circulation that prevents ammonia and moisture buildup while allowing the birds and the coop to maintain temperature is critical.

**Sources**


**Basic Winter Care for Livestock**

[https://extension.unh.edu/blog/basic-winter-care-livestock](https://extension.unh.edu/blog/basic-winter-care-livestock)

Another summer gone and school has started. I’m thinking about adjusting my driving schedule to avoid buses, heat for the house, my winter garden, and preparing my animals and their winter digs for the long, cold days and nights ahead. It’s a New England thing, we spend the warm days preparing for the cold ones. Brrr.. it’s cold away from the wood-stove, but winter doesn’t mean you can neglect livestock care. Quite the contrary. Preparing now can make it much easier once the snow flies. Here are some basic things to consider.

Animals in a closed barn environment during the winter months will still need fresh air, which means good ventilation. A warm, tightly closed barn may seem comfortable to us, it’s not so for livestock. Good air exchange is important to eliminate ammonia gas that causes respiratory problems. It also lowers communicable diseases associated with a close contact environment. Alternatively, drafts should be avoided.

Living areas will need to be cleaned of manure and wet bedding routinely, depending on the species. Chicken pens in late fall and in early spring, depending on stocking density, can be sufficient. Sheep and goats and other pebble makers can be bed packed so constant cleaning isn’t necessary. As for pigs, horses and cows, daily cleaning should stay on your chore list.

Proper exercise during the winter is also important. Make sure your animals have enough space to move around.

Think about obstacles and problems making animal care/daily chores difficult. How do doors open and close in relation to the snow? Did you have ample lighting? Is your walk to the barn at night dark, slippery, and dangerous? Now is the time to remedy these conditions.

If you pasture livestock during the winter, you need to provide a three-sided shed, the open end of this shelter should have a southern exposure. Your pastured animal doesn’t need a blanket if they have a good winter hair coat and adequate shelter. Keeping your animals “dry and out of the wind” works.

Meeting nutritional requirements for body temperature maintenance and growth during the winter months is important. Free choice, loose, salt and minerals are needed in addition to good clean water, plenty of hay and grain.
Support Local Farms and Local Farmers

Some websites to explore:

**Buy Local Food**—a searchable website with farmers who sell direct to consumers. You can narrow your search for product and location: [https://buylocalfoodny.org/](https://buylocalfoodny.org/)

**Finger Lakes Farm Country**—an agritourism website, but includes maple, honey, and other products available for sale: [https://fingerlakesfarmcountry.com/](https://fingerlakesfarmcountry.com/)

**Meat Suite:** buy quantities of meat from local suppliers: [https://www.meatsuite.com/](https://www.meatsuite.com/)

(depending on species). If you can, provide heat to the water, temperature should be around 50 degrees F. This will increase your livestock’s winter water consumption, thereby aiding digestion, and preventing low-level dehydration. This is especially critical for lactating animals.

By feeding good quality hay, and I stress good quality, your livestock will begin the winter in good body condition. If they’re not in a “production stage” supplementing their diet with extra energy, grain is probably unnecessary. Check out our Extension fact sheets for specifics on feeding animals at different production states and understanding hay quality. Poor nutrition shows up quickly in the winter months.

**Some other things to consider:**

You will need at least 50 bales of hay per adult ewe or doe to get you through an average winter.

Trimming hooves in late fall, and again in mid-winter, decreases slipping on ice.

Animals to be bred should be up to date on vaccinations, a wellness check by your vet it a good idea. While there, have the vet check for internal and external parasites that can stress livestock.

Trouble with body lice and mites? Now is a great time to clean and spray all the nooks and crannies in the barn to get rid of those pests. Doing it now makes it easier to keep animals away from the pesticides until they dry. Also it’s a good idea to understand the life cycle of these pests so you can treat the area with pesticide at least twice to catch any insects that hatched after the first application.

So now that I have depressed you, and brought you firmly into the realities of your long winter nap (HA!), remember, your wood stove and a good book are waiting for you after chores are done and your animals will be healthier and happier for your efforts.
Spotted Lanternfly, an Invasive Pest Threatening Grapes and Other Crops, Found in Ithaca, NY

A population of spotted lanternfly (SLF) has been found in Ithaca, NY, just off the Cornell University campus.

They were found on their favorite host plant, another invasive species, tree of heaven (*Ailanthus altissima*). However, SLF also feeds on many other trees and plants, which, unfortunately, includes grapevines. With New York State’s important Finger Lakes grape-growing region and wine industries so close to Ithaca, state agencies and researchers are particularly concerned about this pest’s impact in the region.

SLF is not a fly, but rather a large planthopper. Adults are about an inch long. SLF does not bite or sting and is not a threat to people, pets, or livestock. For most New Yorkers, it will be no more than a nuisance pest. Nymphal and adult SLF have piercing-sucking mouthparts that drill into plant phloem. SLF’s excrement—a sappy liquid called honey-dew—makes things sticky and becomes a breeding ground for sooty mold, an annoying black fungal growth.

While SLF is native to Asia, it was first found in the U.S. in Pennsylvania. As the pest has begun to spread to neighboring states, knowledge and experience from Pennsylvania’s SLF researchers and specialists has been benefiting New York. Pennsylvania agriculture experienced losses of entire grapevine plants in some vineyards, and their economists estimate a potential combined annual loss to their state of $324 million and 1,665 jobs.

Because SLF is a significant agricultural pest, research is underway even now, as Cornell investigates biological control and other management options. The goal is to develop a holistic integrated pest management (IPM) strategy to combat spotted lanternfly, incorporating a variety of research-driven techniques to supplement the use of pesticides wherever possible. This will minimize the downsides of a pesticide-first strategy, which include detrimental effects on humans, pets, livestock, and other non-target organisms, as well as the development of pesticide resistance (and resulting loss of effectiveness) in the target pest.

The New York State IPM Program (NYSIPM) and the Northeastern IPM Center, in conjunction with the state’s Department of Agriculture and Markets and Department of Environmental Conservation, have been preparing for SLF’s potential arrival here for the last few years. In that time, we’ve developed educational resources to help recognize this insect and prevent its spread. Partnering with affected states, we’ve maintained a map tracking its spread and quarantines across the Mid-Atlantic and Northeast region.

To properly identify spotted lanternfly and understand its life cycle, its host plants, and how to monitor and manage it, visit:

StopSLF.org

**Spotted Lanternfly IPM (NYSIPM)**

“What Should I Do?”

If you think you see a spotted lanternfly, report it to New York State Department of Agriculture and Markets using the [Spotted Lanternfly Public Report](#).

Check out the SLF life cycle, below, so you’ll know what to look for. From fall through spring, look for egg masses. Some resources on egg masses:

**Identifying Spotted Lanternfly Egg Masses (PDF)**

**What Should You Do with Spotted Lanternfly Egg Masses?**

**How to Remove Spotted Lanternfly Eggs**

In late spring and early summer, look for the nymph stages. In late summer through fall, look for adults.

Don’t transport this pest. Individual and commercial travelers alike should be aware that there’s significant potential to unknowingly spread this insect to new areas. Adult SLF can end up in vehicles. Egg masses can be laid on virtually anything and can be easily overlooked. Inspect anything that you load into your vehicle. Consult the NYSIPM checklist.

Keep up with the latest news on the spread of SLF and other pest management concerns by bookmarking...
Frequently Used Terms

**Biological control**: A strategy for managing pests that focuses on the introduction of exotic natural enemies, the application of predators, parasitoids, and microorganisms as biopesticides, and the manipulation of the environment to enhance natural enemy populations. (Source: *Natural Enemies: An Introduction to Biological Control*)

**Integrated pest management (IPM)**: A science-based approach to dealing with pests that provides economic, environmental, and human-health benefits. While IPM is not opposed to traditional chemical pesticides, it encourages the use of effective alternatives where possible.

**Invasive species (or invasive pest)**: An organism that causes ecological and/or economic harm in an environment where it is not native. Their introduction can sometimes be the result of human activity, and they are often more challenging to manage in non-native environments because of the lack of natural enemies that are present in their native habitats.

**Nymph**: An immature form of some insects that precedes a more developed immature form or the final adult stage. The insect’s appearance may change significantly between stages.

**Phloem**: The portion of living tissue in vascular plants that transports sugars, proteins, and other organic molecules. Pests like SLF bore into the phloem to consume these nourishing substances, often to the detriment of the host plant.

**Planthopper**: Any insect in the infraorder Fulgoromorpha, in the suborder Auchenorrhyncha, and exceeding 12,500 described species worldwide, as contrasted with flies (order Diptera), which include about 12,000 species. (Source: *Wikipedia*)

In practical terms, planthoppers differ from flies primarily in how they get around. Flies, as the term implies, tend to be capable flyers. While planthoppers can fly to some extent, they mostly walk or hop. Some planthoppers, like SLF, are colloquially referred to as flies, but they are not true flies.
Upcoming Webinar on Starting a Slaughterhouse

This has been a challenging year for livestock farmers and red meat packers in New York State. With many packers already booked solidly for 2021, livestock farmers are feeling panicked about how to get their animals harvested in a timely way. This has driven unprecedented interest in opening new slaughterhouse facilities in the state. But anyone who doesn't already have a strong background and expertise in the industry faces a steep learning curve, with high risk and a large investment of money.

The Cornell Cooperative Extension's Livestock Program Work Team is hosting a webinar that will lay out some of the primary considerations for opening a red meat slaughter and processing facility, from infrastructure to regulations and from labor to financing.

Wednesday, December 9, from 12 p.m. - 1:30 p.m.

Register Now

Presenter Marty Broccoli of Cornell Cooperative Extension in Oneida County has 40 years of experience in the meat packing industry, and provides technical assistance for new plants in NY. Keith Schrader is a long-time beef farmer who owns Schrader Farms Meat Market, a USDA slaughterhouse in Romulus, NY. Both will share key tips and lessons learned, with ample time for Q&A.

You can pre-register for this free webinar now. After registering, you will receive a confirmation email containing information about joining the meeting.

This event is part of a larger partnership between the Cornell Small Farms Program and CCE livestock educators to support livestock producers in the state by developing collaborative resources like the Guide to Direct Marketing Livestock and Poultry, online courses on livestock management, and the 2017 Livestock Summit.

Currently the team is interviewing every meat packing plant in the state to learn about their needs, advocate for resources to build their capacity, and ultimately re-create the slaughterhouse map that used to exist to help farmers connect with processors near them.

Trees for Tributaries Program: An Opportunity to Reforest Your Streamside Areas

Do you have a stream running through your property? Streams are their best when the riparian area, or land area next to the stream, is forested. The New York State Department of Environment Conservation’s “Trees for Tributaries” Program provides landowners with native trees and shrubs at no cost to reforest these streamside areas.

If the riparian area is not vegetated, or if the vegetation is of poor quality, stream stability is vulnerable. This vegetation, or riparian buffer, provides many services in regard to stream stability, but also to terrestrial and aquatic habitat. The riparian area aids in stream stability by slowing flood waters as well as reducing bed and bank erosion. Both aquatic and terrestrial habitats benefit from this area too- shaded streams have lower temperatures and higher oxygen content providing for a more habitable area for invertebrates and fish. Riparian buffers filter out nutrients from storm water, therefore protecting waterways from nutrient pollution, and the diverse, shaded riparian area provides for a refuge and corridor for land animals. Plus, pollinators and migratory birds are attracted to these areas!

Additionally, riparian forest buffers enhance aesthetic and economic value of our properties, may create privacy green screens, or create hunting ground.

Upper Susquehanna Coalition is here to help you plan and plant your buffer through this program. The main eligibility requirement is to have a stream on your property. Private and public sites qualify for the program.

If you or someone you know is interested in learning more about the program, please contact Taylor Held (heldt@co.tioga.ny.us) or Lydia Brinkley (lbrinkley@u-s-c.org) at the Upper Susquehanna Coalition or call (607)687-3553.
Onboarding Webinar Series
Dec. 2, 9, 16 @ 11 AM EDT

Safe, Productive and Engaged from Day One

The first days and weeks on the job set the course for a new employee. A successful onboarding program can be an essential tool to help reduce employee turnover, increase employee safety and productivity, and contribute to a farm’s success.

The three-session Onboarding Webinar Series via Zoom focuses on navigating employment requirements and improving human resource management practices, including enhancing training skills. Each webinar includes a 20-minute presentation, followed by 15 to 20 minute breakout sessions, and finishes with a 15-minute general Q&A session.

Assigned “homework” between each session, completed with the support of a CCE educator or consultant, ensures participants exit the series with a personalized onboarding template, onboarding materials, trainings, and methods.

To sign up for this or future Onboarding projects, contact Lucas Smith (l675@cornell.edu), Ag Workforce Development, or your local Cornell Cooperative Extension educator.

Successful projects have a staff member who focuses on HR a few hours each week.

Benefits for Farms
- Ensures compliance with basic regulations and policies.
- Provides clarification on work procedures and expectations, which results in better employee performance and safety.
- Establishes a workplace culture based on values, philosophies and traditions.
- Creates connected relationships at work that allow employees to engage and thrive.
- Increases employee commitment and reduces turnover.
- Provides accessible and realistic support for farm onboarding, even when labor and time are in short supply.

Farmer Recommended
- Participate. It makes the process better for both employer and employee. It improves compliance, safety, performance, and morale.
- It helps keep hiring organized and gives a sense of professionalism.
- It organized and standardized our system of onboarding. We are now more in compliance than ever.
- This made me so much more confident as I go through the new hire process with employees.
- I got major bonus points on my FARM evaluation for the new employee training with my google classroom that I have set up!

Sample Onboarding Tools
Employee Handbooks, BOP’s, Training Videos, New Hire Forms, Job Descriptions, Farm Safety Plans, Checklists, Organizational Charts, Mission Statement, Written Policies, and more...

Register at tinyurl.com/Onboarding-Webinar-Series
agworkforce.cals.cornell.edu
Worm-like, soil-swimming robots to measure crop underworld

By Krishna Ramanujan | Cornell Chronicle

November 24, 2020

Crop scientists over the years have learned a great deal about how plants grow above the ground, but much less is known about roots and their soil interactions.

Now, a Cornell project funded by two separate three-year grants will develop worm-like, soil-swimming robots to sense and record soil properties, water, the soil microbiome and how roots grow.

A $2 million National Science Foundation (NSF) grant led by principal investigator (PI) Taryn Bauerle, an associate professor in the Horticulture Section of the School of Integrative Plant Science (SIPS) in the College of Agriculture and Life Sciences, will focus on the plants and soil perspective.

Meanwhile, a $750,000 NSF National Robotics Initiative grant to PI Robert Shepherd, associate professor in the Sibley School of Mechanical and Aerospace Engineering in the College of Engineering, will develop the soil-monitoring robots.

The project will focus on maize, with the ultimate goal of incorporating factors related to root growth to improve breeding efforts and soil management that directly affect food productivity and security.

“We plan on developing new tools so that we can tap into the below-ground environment of plants and soil in a way that allows us to shine light in a black box of plant and soil interactions,” Bauerle said.

“This is really the next frontier in plant biology,” said project co-PI Michael Gore, Liberty Hyde Bailey professor and professor of molecular breeding and genetics in the Plant Breeding and Genetics Section of SIPS. By quantifying below-ground characteristics, the researchers may then identify relationships with above ground characteristics, Gore said.

To acquire those measurements, the team will develop 1- to 2-foot worm-like robots that emulate how a bore drills into the ground, combined with a peristaltic motion that mimics how worms move through soil.

“The front loosens up the dirt and the back pushes forward and presses that dirt into a wall of a tunnel,” Shepherd said. They plan for one robot to collect continuous data up and down an entire row of maize.

The team will experiment with a number of sensors and strategies. A robot’s ability to push through soil can reveal such properties as soil density and compactness. Robots will also be fitted with small temperature and humidity sensors.

Fiber optic cables could provide a slew of measurements, including direct imaging of roots to measure growth and angles. The team plans to employ “AquaDust” developed in the lab of project co-PI Abraham Stroock, the Gordon L. Dibble ’50 Professor in the Smith School of Chemical and Biomolecular Engineering in the College of Engineering. AquaDust fluoresces in different wavelengths based on the amount of water in the soil.

Fiber optics could also allow measurements of excitation and emission wavelengths of soil microorganisms and root chemistries, including carbon compounds exuded by plant roots. “We should be able to determine roughly what chemicals and organisms are prevalent at the root surface and surrounding soil,” Shepherd said.

By quantifying root features, soil properties, compounds, microorganisms and water, the researchers may then use predictive models to combine the below- and above-ground characteristics to predict such things as grain yield and stress tolerance, Gore said.

Another goal of the project will be to evaluate how plants might respond to effects of climate change, such as water availability. Measurements of root growth, factored in with environmental data, can provide insights into how roots grow based on external conditions, such as droughts.

Since soil is not a good medium for wireless transmission, the researchers will test prototypes that record data in memory, to be retrieved later. They may also be able to experiment with acoustic communication through soil and wires that run along a row of corn plants. At the end of the project, the researchers hope to showcase live demonstrations of prototypes in a cornfield.

Preliminary work was made possible by seed funding from a Cornell Initiative for Digital Agriculture grant.
Scientists map soils’ potential to combat climate change

By Jana Wiegand | Cornell Chronicle

December 1, 2020

Soil holds about three times as much organic carbon as the atmosphere, which means that making strategic changes to how soil systems are used could play a major role in combating climate change.

With that in mind, two Cornell soil scientists have helped develop a powerful new tool that will help researchers and policymakers map the global potential for carbon sequestration.

Soils Revealed is an open-access, interactive platform that uses cutting-edge technology to model how soil organic carbon has fluctuated over the last 11,000 years and to project soil’s future carbon-storing capacity.

This new tool will help policymakers and nongovernmental organizations meet their regional and national climate goals by pinpointing key areas for soil restoration and for implementing land management practices that limit greenhouse gas emissions.

Launched on Dec. 1, Soils Revealed was developed in collaboration with scientists at The Nature Conservancy, Woodwell Climate Research Center and the International Soil Reference and Information Center.

“This innovative platform delivers the immense opportunities of soils to remove atmospheric carbon dioxide at your fingertips,” said Johannes Lehmann, co-lead investigator and Liberty Hyde Bailey Professor of Soil Biogeochemistry in the College of Agriculture and Life Sciences (CALS). “We hope that policymakers and industry get to work and explore where they can help to restore our soils with carbon and mitigate climate change.”

According to Lehmann, Soils Revealed is the first interactive, global tool that shows how organic carbon in the soil has changed over time, as well as how much potential different land management strategies have to mitigate climate change.

“Soils have a vital role to play in mitigating climate change and supporting biodiversity, but to date we’ve tended to view them too much in static terms,” said Deborah Bossio, project leader and lead soil scientist for The Nature Conservancy. “One of our goals with this launch is to remind policymakers that these complex, millennia-old ecosystems are every bit as dynamic as forests – and every bit as capable of recovery, if the right management practices are prioritized. We already know how to do this; now Soils Revealed can show us where to focus these efforts.”

Dominic Woolf, senior research associate in the Soil and Crop Sciences Section of the School of Integrative Plant Science in CALS, conducted the future soil carbon modeling scenarios for the platform.

“It is really exciting that we now have the digital tools to explore at high resolution – even down to the individual farm – what strategies work best and how much carbon we can store,” Woolf said. “This should provide real benefits in guiding policy and land management decisions at all levels.”

The platform’s map allows users to focus on specific regions; search by political, geographical and biological zones; and sort through a variety of land-use scenarios that range from croplands to forests and wetlands.

Woolf said soils’ ability to sequester carbon can vary widely between different climates, biomes and land management practices. By allowing users to explore future scenarios where ecosystems are restored or carbon farming practices are implemented, for example, they can see a direct connection between how land use changes affect global carbon emissions, soil health and environmental well-being.

“Filtering the data according to these parameters really helps to find targeted solutions that are applicable to specific conditions,” Woolf said. “Being able to visualize the stark differences between these possible futures should be a wake-up call to the need to radically improve how we care for the land.”

Funding for the project was provided by the Cornell Atkinson Center for Sustainability, where Lehmann and Woolf are both faculty fellows.
USDA Providing Additional COVID Assistance to Farmers and Ranchers

Up to an additional $14 billion is available for agricultural producers who continue to face market disruptions and associated costs because of COVID-19. Signup for the Coronavirus Food Assistance Program (CFAP 2) will begin September 21 and run through December 11, 2020. CFAP 2 payments will be made for three categories of commodities – Price Trigger Commodities, Flat-rate Crops, and Sales Commodities. Producers can apply for CFAP 2 at USDA’s Farm Service Agency (FSA) county offices.

Learn more and apply by December 11th, 2020.

Survey of Dairy x Beef Use on Dairies in New York

Are you a dairy producer in New York State? The usage of beef on dairy genetics has steadily grown over the last few years, and we are working towards understanding the trends and markets of this strategy. Has your farm used beef sires as a part of your breeding strategy?

Even if you have not used beef sires in your dairy herd, you are encouraged to take the following survey to fully quantify the usage of beef sires. If you have not used beef sires, the survey should only take a minute to complete.

We ask you to take this survey, put together by Cornell Cooperative Extension Regional Dairy Specialists. This survey can be accessed using the QR code below, or at the following link: https://cornell.ca1.qualtrics.com/jfe/form/SV_4HHU14xa0XN4xg1

The survey should take approximately 15 minutes to complete. You can start it now and access it again later for completion, if needed. Your participation in this survey will help Cornell Cooperative Extension to: compile data on usage of beef sires on dairy farms in New York State; assemble common practices & gather financial parameters for marketing dairy x beef calves in New York State and provide information on the current dairy x beef market

The survey will be open for several months, starting mid-October. For questions, please contact Margaret Quaassdorff (maq27@cornell.edu) or Betsy Hicks (bjh246@cornell.edu), Regional Dairy Specialists with Cornell Cooperative Extension.

We sincerely appreciate your participation and we look forward to sharing our results with the dairy industry!

Cornell College of Ag and Life Science and Cooperative Extension Release papers focusing on 2020 and the effects of COVID on Food and Farms in New York

In this series of nine discussion papers, Cornell CALS experts seek to provide perspectives and insights on the impact of COVID-19 to selected agricultural sectors. Their goals are to assist in bringing a greater understanding of the effects of immediate and sustained disruptions in the farm and food system on the agricultural economy and assist in highlighting lessons learned to strengthen the food system going forward.

Farmers’ Market being Planned at Farmer Brown’s Marketplace in Apalachin

Join other farmers interested in a new farmers’ market at Farmer Brown’s Marketplace (4280 Rte 434, Apalachin, NY 13732 ) on December 15th from 1 to 3 pm to discuss possibilities for a 2021 farmers’ market. Contact Logan Keeney at Farmer Brown’s (607) 214-2910 for more information.
YOUR WAY TO SMART HOME
ENERGY SAVINGS!

GET A FREE PROFESSIONAL HOME ENERGY ASSESSMENT
AND QUALIFY FOR:

1. **EMPOWER NEW YORK**— Provides incentives for families making below 60% of the state median income ($57,564 for a family of 4). This covers 100% of the cost of qualified Energy Efficiency Improvements, up to $10,000 through 12/31/20, such as insulation, air sealing, new refrigerator and lighting.

2. **WEATHERIZATION ASSISTANCE PROGRAM**— Provides additional energy improvements at no cost.

3. **ASSISTED HOME PERFORMANCE WITH ENERGY STAR**— For families making below 80% of the state median income ($115,128 for a family of 4 through 12/31/20). This covers 50% of additional energy improvements such as additional insulation and heating system up to $5000.

GET RENEWABLE HEAT INSTALLED FOR ADDITIONAL INCENTIVES

Renewable heat NY incentives are available toward the installed costs of high-efficiency, low-emission wood heating systems for customers not currently using natural gas.

- **WOOD PELLET STOVES**— Get $1500 - $2500
- **WOOD PELLET BOILERS**— Get up to $41,000
- **CORD WOOD BOILER**— Get up to $12,000
- **AIR SOURCE HEAT PUMP**— Get up to $1000/10,000 BTU - Provides heating AND cooling
- **GROUND SOURCE HEAT PUMP**— Get up to $15,000/ $500,000 - Provides heating AND cooling

GET COMMUNITY SOLAR— GET YOUR SOLAR FROM A LOCAL SOLAR FARM!

1. **SOLAR FOR ALL**— Save $10 avg/mo. Eligible households can subscribe to community solar for free. Income eligibility based on families making below 60% state median income ($57,564 for a family of 4).

2. **SUBSCRIPTION SOLAR**— Get 5-10% off the current electric rate.

3. **PURCHASE**— Get solar energy credited to your utility bill monthly from panels you purchase for your own property or on a community solar farm. Get tax credits and rebates that cover up to 50% of the cost or more.

For questions or if you would like a FREE Home Energy Assessment, contact one of our Community Energy Advisers:

- **Broome, Tioga, Chemung, Chenango Counties**: Eileen Hanrahan t. 607.366.0833 eeh85@cornell.edu
- **Delaware County**: Valerie Dudley t. 607.865.6531 vsd22@cornell.edu
- **Schuyler, Steuben Counties**: Phil Cherry t. 607.535.7161 pc526@cornell.edu
- **Tompkins County**: Karim Beers t. 607.272.2292 kwb6@cornell.edu

Cornell Cooperative Extension Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans and Individuals with Disabilities and that provides equal program and employment opportunities.

LEARN MORE ABOUT THESE PROGRAMS AT WWW.SMARTENERGYCHOICES.ORG
Two session FREE Program for Farm Women Inspired by Annie's Project

Come and get "Inspired by Annie's" with Bonnie Collins and Laura Biasillo,

NYS Annie's Project facilitators, as we discuss issues specific to farm women during a FREE 2 session program! We'll have guest speakers, engaging presentations, and offer best practices, tools and resources farm women can start implementing as soon as they leave the webinar! Only women are allowed to ensure a safe atmosphere for discussions.

Wednesday, December 9th: Stress Management for Farm Women

Join us as we unpack stress management specific to farm women. We'll cover:

• Financial Stressors;
• Emotional Stress; AND
• the Art of negotiation

To pre-register for December 9, 2020, visit https://tinyurl.com/y6md2shg

Tuesday, December 15th: Health & Safety Concerns for Farm Women

Our special guest will be Christina Day with Bassett Healthcare/NY Center for Agricultural Medicine & Health.

We'll be discussing:

Tools and ergonomics for farm women
Health issues for women; AND
Safety surrounding women and teens on the farm.

To pre-register for December 15, 2020, visit https://tinyurl.com/yxhmloos

There is no charge, but registration is required.

To view flyer: https://nydairyadmin.cce.cornell.edu/pdf/event_new/pdf10.pdf

You are invited to attend the Storage Crop Facility School presented by the Cornell Vegetable Program, Cornell Cooperative Extension

December 8, 9:00-2:00 – Smaller-scale Mixed Vegetable Storage

Location: Virtual Zoom Meeting, pre-registration required; may join via computer or phone

Price: This event is free to attend!

Join us for this one-day storage focused event, where speakers from across the Northeast and Midwest will be presenting on challenges and updates surrounding vegetable storage! On December 8th we’ll be focused on smaller-scale storage of mixed vegetables, and hear talks on storage construction and management, tactics for better storage, and disease control on a smaller scale. We'll hear presentations on funding opportunities, farm food safety considerations for storage, and grower opportunities with the NYS Farm to School program. We invite you to join in as you can.

Both events will be held virtually over Zoom and pre-registration is required. Only those who pre-register will receive meeting attendance information. To register, or if you have any questions about this event, please email Margie Lund at mel296@cornell.edu and include the name(s), phone number, and email of those who plan to attend, as well as which day(s) you would like to attend.

If you are interested in additional educational material surrounding vegetable storage, check out speaker Scott Stanford’s book, available in a print or digital copy (see links below):

On-Farm Cold Storage of Fall-Harvested Fruit and Vegetable Crops: Planning, Design and Operation, Scott A. Sanford, John Hendrickson, University of Wisconsin Extension, 84 pages; 2015

Using proper storage methods, crops harvested in the fall can be stored in bins or bulk piles for 2-12 months depending on the crop. This guide helps growers plan, design, specify equipment, and operate a cold storage facility tailored to their specific requirements.


The New York Center for Agricultural Medicine and Health (NYCAMH) is offering financial assistance to farm operations for repairs and upgrades that help make for a safer workplace. Funds of up to $5,000 are available on a first-come, first-served basis to applications approved through the John May Farm Safety Fund. For additional information, to download an application or to see videos of funded projects, go to https://www.nycamh.org/programs-and-services/john-may-farm-safety-fund.php, call 800-343-7527 or email at jmfsf@bassett.org.

SARE Publication

A Whole-Farm Approach to Managing Pests is available for free in print and for download, and is useful to farmers and educators alike.

A Whole-Farm Approach to Managing Pests describes ecological pest management strategies that focus on strengthening natural relationships throughout the farm to reduce pest pressures. These holistic strategies emphasize knowledge of cropping systems, biodiversity and farm resource management. Practices that produce healthy crops and keep insects, weeds and diseases away focus on:

- promoting biodiversity
- creating healthy crop habitat
- reducing disturbance to soil and non-crop vegetation, and minimizing off-farm inputs.

This newly updated technical bulletin is broken down into two parts. Part one examines how biodiversity and biological control drive management practices that can boost the natural defenses of your farm. The second part puts those tools into practice by providing reliable and profitable strategies to successfully manage pests.

Focusing on the farming system rather than on each individual pest can make pest control across the whole farm more effective and sustainable. Ecological strategies can be adopted incrementally to meet the unique pest management needs of every operation while providing other benefits such as improved soil health and biodiversity maintenance.

Download or order your free print copy of A Whole-Farm Approach to Managing Pests at https://www.sare.org/resources/a-whole-farm-approach-to-managing-pests/ or by calling (301) 779-1007. A Whole-Farm Approach to Managing Pests is available in quantity for free to educators for use in educational workshops, classes or tours.
NOFA-NY winter Conference goes virtual

January 16-23, 2021 - Save the Date!

Rooted in Resilience, our 2021 Winter Conference, will include more than 60 virtual events, in addition to our keynote speaker, Laura Lengnick, and the Northeast Organic Seed Conference! And, we’ve extended the length of the conference from three days to a whole week – giving you the opportunity to participate in even more than you would at the in-person conference. In the meantime, please take this short survey to help us host an event that fits your needs. Thank you!

The ‘Degradable Mulching Films for Sustainable Agriculture’ is a 4-year project covers biochemical formulations followed by field trials. This work is done in collaboration with the Cornell Vegetable Program team members and CCE-Monroe County staff. To start with, the researchers would like to better understand the current usage of plastic mulching film and challenges associated with by putting together this brief survey. Please share with your farmers and encourage them to fill it out: https://cornell.ca1.qualtrics.com/jfe/form/SV_3mxuwOV1ZlaxGvj

Twisted Tree Nursery Taking Orders for Spring

We are now taking orders for spring planting. You can see our plants here. Several species seem to be selling out fast, so I wouldn't hesitate if there are certain things you want. This year we grew an abundance of chestnuts, butternuts, many species of oak, elderberries, currants, willows (available as cuttings here), and many, many other plants.

Battling mice and voles (but never with mothballs)

As fall approaches, mice and voles are scurrying for a nesting spot in your house or garage or shed. Whatever the havoc, mothballs are not the answer—and are in fact highly toxic, and illegal for garden use. Learn how to control rodent pests safely, and how mice in particular figure into the Lyme-disease equation, too.
Maintaining a strong agriculture community and ensuring a vibrant future for Tioga County’s Rural Landscape

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NYFB Workers Compensation Safety Group 486

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