Connections

The News of Cornell Cooperative Extension Schoharie and Otsego Counties

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FAA-certified drone pilot John Gustafson (center back) and Altus Intelligence Helicopter are shown with youth. Youth standing (l-r) in the back row are Josh, Logan, Elijah, and Dustin, and in the front row Collin, Daniel, Michael, and Jason.

Fantastic Flights

The world of drones took flight February 9, with 4-H Drone Discovery Day at Schenevus Central School. It was an exciting morning for thirty-seven youth to discover drones and drone technology.

A "show & tell" exhibit of recreational and commercial drones was pop-



Schenevus Central science instructor Don Zaengle demonstrates Bernoulli's Principle and Newton's third law using a floating ball with the help of Michael.

ular for adults and youth. Highlights were the Thew Associates Commercial Altus Intelligence Helicopter and the "Dropcopter," which automates pollination of orchard crops (NY apple orchards!) via unmanned aircraft systems (UAS).

In the opening aeronautics and safety presentation, participants learned about the potential danger of drones by watching a video where a simple drone destroyed the wing of a commercial plane. In four handson sessions, youth discovered the science of flying, how to take a drone flight chal-

continued on page 2

Fantastic Flights, continued from page 1



An I-Pad landing takes teamwork as William (l-r) receives instruction from Hannah Olds.

lenge, career opportunities, and how to fly a Tello Drone.

Outstanding presenters cluded Don Zaengle, Unmanned Ariel Systems Instructor and FAA

Drone Pilot; John Gustafson, sUAS Program Manager; Thew Associates, Commercial and FAA Drone Pilot; Doug Reilly, Director of the A.J. Read Science Discovery Center® SUNY Oneonta and FAA Drone Pilot; Bob and Lisa Payne, Central New York Drones (CNY Drones); and students of the Schenevus Unmanned Ariel Systems program.

Elijah Reed was the winner of the door prize, a Syma, X5UW, 4 Channel, Quadcopter Drone!



Elijah (center front) wins the door prize! Planning team members are (l-r) Don Zaengle, Lisa Payne, Jay Deitchman, Bob Payne, (Elijah), Patti Zellmer, John Gustafson, Jay Reilly, and Susan Hoskins; not shown, Bill Shue.

When asked, what you discovered today ... youth responded by saying: "I like to fly the drones," "The shape of the wing is called an airfoil," "That drones can crash into a plane," "About the forces of lift," "What jobs you can get flying a drone," and "Drones can assist with pollination." The number one response to what did you like best about the day ... "FLYING a drone!"

Special thanks are extended to our host Schenevus School, the presenters, and the thirty plus volunteers who provided the opportunity for 37 youth to discover the world of drones and drone technology.

4-H Drone Discovery Day was sponsored by Cornell Cooperative Extension, Otsego County 4-H in partnership with the Schenevus Central School, A.J. Read Science Discovery Center, John Gustafson, Thew Associates, CNY Drones and Dropcopter.

Event photo credits: Bill Shue, Julie Adelmann, Patti Zellmer.

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OUR MISSION

Cornell Cooperative Extension puts knowledge to work in pursuit of economic vitality, ecological sustainability, and social well-being. We bring local experience and researchbased solutions together, helping New York State families and communities thrive in our rapidly changing world.

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New York State College of Agriculture and Life Sciences, New York State College of Human Ecology, and New York State College of Veterinary Medicine at Cornell University, Cooperative Extension Associations, county governing bodies, and U.S. Department of Agriculture, cooperating.

Save The Date!

Attention Schoharie, Otsego, Delaware Farms!



Cornell Cooperative Extension

Planning for Family Farm Day (FFD) is underway for year seven in Schoharie County, four in Otsego, and two for Delaware. By all accounts, 2018 went very well, the ideal weather being a key factor along with a diversity of farms, extensive publicity, and the addition of Delaware County farms and county tourism. Participating farms continue to benefit from widespread publicity and excellent farm product sales, while visitors build awareness about agriculture, local farming, real food, and a multitude of farm products. And best of all, they get to meet with you!

The FFD Planning Committee takes nothing for granted in building and maintaining a signature event made possible only with your participation and the generosity of our sponsors. Please save these dates to attend the annual FFD Winter Meeting(s) in respective counties:

Schoharie

Wednesday, March 20, 1-3:00 p.m., CCE Extension Center, 173 S. Grand St., Cobleskill

Contact: David Cox, 518.234.4303 (x119) or dgc23@cornell.edu for more information

Delaware

Thursday, March 21, 1-3:00 p.m., CCE Extension Center, 34570 SR 10, Hamden

Contact: Mariane Kiraly, 607.865.6531 or mk129@cornell.edu for more information

Otsego

Friday, March 22, 1-3:00 p.m., CCE Education Center, 123 Lake St., Cooperstown

Contact: Lyn Weir, 607.547.8886 or lyn@lynweir.com for more information

These meetings are multi-faceted to address your issues and concerns, our survey data, lessons learned, subsequent improvements, guidelines, timelines, and a preview of the 2019 Farm Guide—everything's on the table!

Attendance at this meeting is not required to participate in FFD, but we encourage your presence as many questions and shared ideas can be addressed in a short time during the winter season. Look for further announcements. See you then!

Family Farm Day is a collaborative event produced by Cornell Cooperative Extension Schoharie and Otsego Counties, Cornell Cooperative Extension Delaware County, Schoharie County Chamber of Commerce, Otsego County Chamber of Commerce, Cooperstown Chamber of Commerce, Delaware County Chamber of Commerce, Schoharie County Tourism, Otsego County Tourism, Delaware County Tourism, Schoharie, Otsego, and Delaware County Farm Bureaus, and Schoharie, Otsego, and Delaware County farms.

PROGRAM EVENTS

Cobleskill Home & Garden Show

The Schoharie County Chamber of Commerce is hosting The Cobleskill Region Home & Garden Show. Talk to industry experts, gather ideas, build your dream! There will be a children's fair with free activities, door prizes and food available for purchase. All this and more! Adults/\$5, Under 14/free. Visit: www.schohariechamber.com for more details. Schoharie County Master Gardeners will be on hand to address topical issues and share resource handouts. Saturday, March 9, 2019, 10:00 a.m. - 4:00 p.m. Sunday, March 10, 2019, 11:00 a.m. - 4:00 p.m. at the Cobleskill-Richmondville High School, 1353 State Route 7, Richmondville.

Lunch Break Workshop with Otsego Master Gardeners

Take a break, bring your lunch, and join the Otsego County Master Gardeners on Wednesday March 13, from noon – 1 p.m., the topic is Grafting Fruit Trees. The session is free and open to the public. CCE Education Center, Cooperstown. Please call to let us know you're coming, 606-547-2536.

Tractor Supply Paper Clover Promotion

Each spring and fall, Tractor Supply helps raise money for 4-H programs through the sale of Paper Clovers in their stores. In the most recent campaign, they raised over \$981,000 nationwide. 90% of funds raised go back to state and local 4H programs to support scholarships for camp and leadership activities. Be sure to visit your local Tractor Supply store to purchase a paper clover. The money raised by the purchasing of paper clovers will be a direct benefit to the Schoharie and Otsego Counties' 4-H programs. Thank you for your support. Contribute during their 2019 fundraisers by: 1) Donating in store at the register, 2) Donating online at checkout when making a purchase on tractorsupply.com. (Donations will be assigned to states based on the shipping location), and 3) Donating by phone when you call TSC Customer Solutions at 877-718-6750. The Paper Clover spring promotion dates are March 27 through April 7, 2019.

Schoharie Master Gardener- Large & Small Fruit Pruning Workshop

Schoharie County Master Gardeners will host Laura McDermott, Large & Small Fruit Specialist, Eastern NY Commercial Horticulture Program, for a hands-on session on pruning large and small fruit trees, April 6 from 10 a.m. to noon, at Bohringer's Fruit Farm, 3992 St. Rt. 30, Middleburgh. Appropriate dress and footwear for early spring are recommended; personal pruning tools are welcome. \$10/person, payable at the door.

The Hartwick 4-H Theatre Guild's Spring Production of "Peter Pan"

This 2019 youth-directed performance by the Hartwick 4-H Theatre Guild will be performed in April at the Hartwick Community Center in Hartwick, NY. Plan to join them for an enjoyable experience. Performances are April 5 at 7 p.m. and April 6 at 2 p.m. & 7 p.m. at the Hartwick Community Center, 450 County Road 11, Hartwick, NY

Schoharie Master Gardener- Seed Starting & Straw Bale & Garden Workshop

Join Schoharie County Master Gardeners- Brenda Weaver and Suzann Kipp for a hands-on session about an increasingly popular method of small space gardening. \$5/person, payable at the door. April 13, 10:00 a.m.- 11:00 a.m. at Extension Center, 173 S. Grand St., Cobleskill.

Earth Festival 2019

Earth Festival is an environmentally-focused, interactive event sponsored by the Otsego County Conservation Association featuring exhibits, workshops, vendors, food and entertainment, all with a fun, earth-friendly twist. Stop by and browse the handouts and posters. **Otsego County Master Gardeners** will be available in the main gym to address the use of native plants in home gardens and landscapes; the 'Don't Get Ticked NY' program for preventive measures for tick bites and Lyme disease; seed starting and other seasonal and topical information, including invasive species, will be shared. Saturday, April 13, 2019, 11 a.m. - 3 p.m., free. Milford Central School, 42 Main Street, Milford, NY 13807

2019 Schoharie County Maple Festival

April 27, Cobleskill Fairgrounds, Cobleskill

SAVE THESE DATES

EFNEP—Parent & Child Hands-on Cooking and Sneaker Program Series

Join your children/child in this 6 - 8 lesson series focused on cooking, healthy meals, and exercising with your family. Find answers and tips about eating more fruits and vegetables affordably and enjoying being active together. The lessons will be taught by Michelle Leveski, EFNEP Nutrition Program Educator. Every adult signed up who completes the lesson series will receive one \$40 certificate (adult) and one \$30 certificate (child) for athletic footwear from the Shoe Department Store sponsored by Bassett Research Institute's 5210 initiative.

Wednesdays, 4:30-5:30 p.m. on May 15, 22, 29, and June 5, 12, and 19 at the Extension Center in

Cobleskill, NY; free. Call the Cobleskill Office at 518-234-4303 to preregister by May 9, for the classes.

Tuesdays, 4:30-5:30 p.m. on June 4, 11, 25, and July 9, 16, and 23 at the Extension Center in

Cobleskill, NY; free. Call the Cobleskill Office at 518-234-4303 to preregister by May 31, for the classes.

Class size is limited. Children should be age 4 and older.

Lunch Break Workshops with Otsego Master Gardeners

Take a break, bring your lunch, and join the Otsego County Master Gardeners on Wednesdays:

May 8: topic-**GROW Initiative**- Presenters, Francine Stayter and Carol Phelps, Otsego Master Gardeners

June 12: topic-**Culinary Herbs**- Presenter, Gert Coleman, Vegetable & Herb Specialist

Sept. 11: topic-Soil Health/pH Testing; from noon – 1 p.m. The sessions are *free* and open to the public. CCE Education Center, Cooperstown. Please call to let us know you're coming, 607-547-2536.

Otsego Master Gardener- Cuttings & Seeds Workshop

Otsego County Master Gardeners are presenting a workshop on plant propagation from cuttings and seed starting for children ages 7-11, with accompanying adults. Saturday, May 11, 10 a.m. to noon, CCE Education Center, Cooperstown. Pre-registration is required, call 607-547-2536.

Schoharie Master Gardener- 24th Annual Spring Plant Sale

A wonderful variety of annuals, perennials, herbs, hanging baskets, seed potatoes, bareroot shrubs, and more will be offered! Saturday, May 18, 9 a.m.–12 p.m. Extension Center, 173 South Grand Street, Cobleskill, NY.

Otsego Master Gardener- Annual Spring Plant Sale

Come for the best selection of perennials, annual flowers, vegetables, herbs, and ground covers that do well in Otsego County. Saturday, May 25, 9 a.m.-1 p.m., Education Center, 123 Lake St., Cooperstown, NY.

Schoharie Master Gardener- Food Preservation: Successful Steps for Freezing Foods Workshop

Master Food Preservers, Jan Ryder and Leslie Rigley, will present a hands-on workshop for freezing foods. Thursday June 6, from 6 to 9 p.m. at the Extension Center, 173 S. Grand St, Cobleskill. Space is limited. Cost is \$15/person, including all materials and supplies; must be paid in advance to reserve your space.

Dairy-Berry Day

Saturday, June 15 Centre Park, Cobleskill.

2019 Otsego County Fair

Tuesday, July 30 - Sunday August 4

2019 Cobleskill Sunshine Fair

Tuesday August 6 - Sunday August 11; visit the Schoharie County Master Gardeners in Progressland!

Family Farm Day 2019

Join others in experiencing working farms in Schoharie, Otsego, and Delaware Counties at our 7th Annual Family Farm Day, August 24, 2019!

See our website, cceschoharie-otsego.org for additional events not listed.



Spotted lanternfly with closed wings, Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

A Good Defense . . .

A good defense, as we all know, is the best offense, and when it comes to the spotted lanternfly another invasive pest that has the potential to threaten New York agricultural lands and forests, and that is our call to action. Knowledge about this pest is our first line of defense, we can also aid in the second line of defense—detection, and actively participate in the third line defense by not bringing these hitchhikers from areas that currently have infestations. Read on to learn more so you can do your part in this crucial fight.

The spotted lanternfly was first detected in Pennsylvania in September 2014. It was thought to have been introduced in a shipment from its native habitat. This plant hopper also known as Chinese blistering cicada or lantern moth is native to China and Southeast Asia. Since they have very few predators here, and because they breed in large numbers, these insects can quickly reach infestation levels.

Although only one generation occurs a year, each female can lay 2 to 3 egg masses containing 30-50 eggs before the adult dies off in November or December. These egg masses winter-over and hatch in May and June as wingless nymphs. In the first three stages, these nymphs are small (¼ inch) and look like ants. In the fourth stage, they are larger (½ inch) and are red. Their final molt is into adults (~1 inch) with wings, which begins in July. Spotted lanternfly adults are very colorful when



Spotted lanternfly stage four nymph, Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

their wings are displayed while hopping. They have red hind wings with black spots, a black head, and a yellow abdomen with black bands. When they are at rest or

crawling, you see only their forewings which are a light grayish-brown with black spots and a distinctive black brick-like pattern on the tips. From the end of July through October, adults begin to migrate to new areas. In September they mate, and females begin laying egg masses on hard, smooth surfaces (trees, decks, houses, outdoor equipment,



Adult spotted lanternfly, Photo: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org

bricks, stones, dead plants, plastic, etc.). Egg masses tend to be laid in seed-like vertical rows which the female then covers with a gray waxy secretion (initially white, but quickly

turns gray-brown in color). Sometimes the eggs are completely covered by this substance and other times they are not. As the egg mass ages, the gray

continued on page 6

waxy coating will crack and look even more like dried mud.

While they don't bite people, chew leaves, or feed directly on fruit, the spotted lanternfly does feed on plant parts with specialized mouth parts that can pierce the plant and suck up sap. Both nymphs and adults feed in this way on leaves, stems, and trunks. Piercing the plant tissues and feeding on the sap weakens the plant, causing it to ooze and weep, resulting in a fermenting odor and a gray-black trail on the bark. Feeding insects, sometimes in the thousands, can stress plants and lead to wilting, leaf curling, and plant death. Spotted lanternflies also create "honeydew," a sugar rich excretion (urine), while feeding creating a rain-like atmosphere around affected plants, if levels of infestation are high. Overtime this may encourage the growth of sooty mold. The presence of a fermenting odor and honeydew may also attract other opportunistic insects.



Vertical egg mass not covered, Photo: Emelie Swackhammer, Bugwood.org



Egg masses in a variety of stages, Photo: Emelie Swackhammer, Bugwood.org

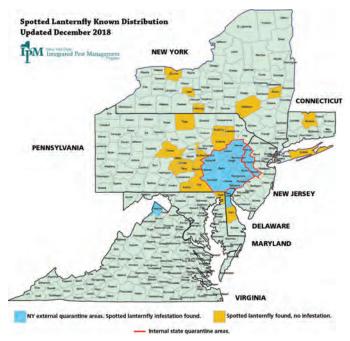
Adult spotted lanternflies prefer to feed on the tree of heaven (Ailanthus altissima, itself an invasive species) and grapevine (Vitus vinifera). Although in all their life stages, they are able to feed on many different hosts, upwards of seventy species of woody and non-woody plants and trees. This creates concerns for agricultural crops including grape, hops, apple, blueberry, stone fruit, and hardwood trees like maple and black walnut. The presence of these in-

sects could lead to substantial crop loss and increased management costs in New York vineyards, orchards, forests, and recreation industries.

State Agriculture Commissioner Richard A. Ball said, "It's critical that we monitor for and control this invasive species, which can weaken plants and have a devastating impact on our farm crops and agricultural production, especially apples, grapes, and hops. Since our farmers are among those facing the greatest potential impact, we ask them to join us in

helping to watch for the spotted lanternfly, and signs of infestation, and report any sightings immediately."

This call to arms to New York State farmers regarding the spotted lanternfly needs to extend to all New York State residents if we are going to limit the spread of this troubling, invasive pest. Currently spotted lanternflies have been found in the following counties: In 2017 one dead adult insect was found in Delaware County, and in 2018 Spotted Lanternfly adults or egg masses were found in Albany, Chemung, Monroe, Suffolk and Yates Counties as well as in Brooklyn and Manhattan. All were thought to be hitchhikers, with no infestations reported at this time. Because there are now established populations of spotted lanternflies in Pennsylvania, New Jersey, Delaware, and Virginia with quarantines in effect for affected counties, and, due to the fact these pests are spread primarily by human activity, New York State has instituted an external quarantine.



Department of Environmental Conservation Commissioner Basil Seggos said, "The newly designated exterior quarantine is part of the State's aggressive effort to protect our natural resources from the destructive, invasive pest spotted lanternfly. If this insect becomes established in New York it would threaten our agricultural and tourism industries, including outdoor recreational activities. DEC will continue to work with our state and federal partners to prevent the introduction of this pest into New York State and do what we can to help educate and prepare communities for spotted lanternfly."

To help slow the spread of the spotted lanternfly into New York, the quarantine requires certificates of inspection to be issued from the impacted states on the following regulated articles entering New York State:

- Any living life stage of the spotted lanternfly
- Brush, debris, bark, or yard waste
- Landscaping, remodeling, or construction waste
- Logs, stumps, or any tree parts
- Firewood of any species
- Packing materials, such as wood crates or boxes

All plants and plant parts, including but not limited to nursery stock, green lumber, fruit and produce and other material living, dead, cut, fallen (including stumps), roots, branches, mulch, and composted and un-composted chips.

Outdoor household articles, including, but not limited to, recreational vehicles, lawn tractors and mowers, mower decks, grills, grill and furniture covers, tarps, mobile homes, tile, stone, deck boards, mobile fire pits, and any equipment associated with these items, and trucks or vehicles not stored indoors.

Any other article, commodity, item, or product that has or that is reasonably believed to be infested with or harboring spotted lanternfly.

New York's order requires travelers transporting any of the above items to have documentation listing the origin and destination of shipments. It also prohibits unnecessarily stops while traveling through the quarantine area. The State Department of Agriculture and Markets will operate compliance checks inspecting vehicles entering from Pennsylvania via major highways at strategic locations around the State to enforce the regulation. Because



Spotted Lanternfly egg masses on a rusty barrel, Photo: Lawrence Barringer, Pennsylvania Department of Agriculture,

these insects can be on your products, vehicles (underneath or in wheel wells), and even your clothes, if you have been in an area under quarantine be sure to inspect for egg masses October through June, nymphs May through July, and adult spotted lanternflies July through December,

when leaving these areas. The **checklist following this article** has a list of the quarantined areas, places to look for the insects, and what to do if you find a spotted lanternfly in New York. Although New York State is regulating commerce and travel in quarantined areas, you as a consumer may also need to be vigilant if you purchase goods from these areas through internet sales. Although we hope the measures being taken in New York State will prevent an infestation, here are signs to look for:

- Sap oozing or weeping from tiny open wounds on tree trunks, which appears wet and may give off fermented odors.
- One-inch long egg masses that are brownishgray, waxy, and mud-like when new. Old egg masses are brown and scaly.
- Massive honeydew build-up under plants, sometimes with black sooty mold.

Inspect suspect trees and plants at dusk and at night when insects tend to gather in large groups on the trunks or stems of plants.

Whether one spotted lantern fly or many, be sure to report what you find.

- 1. Take pictures of the insect, egg masses, or infestation you see and, if possible, include something for comparison, such as a coin or ruler.
- Swarm of spotted lanternflies on a tree, Photo: Lawrence Barringer, Pennsylvania

Department of Agriculture, Bugwood.org

2. If possible, collect the insect

or egg mass (remove by scraping with a putty knife or plastic card). Place in a bag and freeze, or in a jar with rubbing alcohol or hand sanitizer.

- 3. Note the location (street address and zip code, intersecting roads, landmarks, or GPS coordinates).
- 4. **Email pictures and location** to spottedlantern fly@dec.ny.gov

The New York story of the spotted lanternfly is still being written, if we collectively provide a good defense there can be a promising outcome.



Stop the Spread of Spotted Lanternfly by Using This Checklist Photo: PA Dept. of Agriculture, Manuacod Sto



If you've spent any time in a Spotted Lanternfly quarantine area* in DE, NJ, PA and VA, it's important to check for egg masses, adults, and nymphs on your vehicle and, when applicable, the items listed on this page.

consider the following items high priority:					
□ motor homes □ recreational vehicles □ trailers □ tarps □ firewood including logs & stumps	 □ wooden crates and boxes □ mobile fire pits □ outdoor furniture and covers □ landscape tiles and stones □ construction waste 	□ any plant material: yard waste, brush, nursery stock			
		 □ bar-b-que grills and covers □ lawnmowers and mowing decks □ boats and trailers 			
			In addition:		
			Recreational and Camping Gear		
□ backpacks	□ campers	□ snowmobiles			
□ basketball backboards	□ ice chests	□ tents			
□ bicycles	□ motorcycles	□ canopies			
Outdoor Items					
□ barrels	□ shutters	□ kiddie pools			
□ cardboard	□ cold frames	□ sandboxes			
□ outdoor poles	□ fencing	□ playground equipment			
□ plant containers	□ garden tillers	□ bicycles and scooters			
□ propane or oil tanks	□ yard decorations	□ dog houses, rabbit sheds,			
□ trash cans	□ garden tools	chicken coops			
□ garden carts	□ backhoes	☐ farm tractors & equipment			
□ refrigerators and freezers	□ signs and posts				
□ storage sheds	□ children's playhouses				
Building Materials					
□ bricks/cinder blocks	□ tools and toolboxes	□ glass			
□ lumber	□ workbenches	□ plastic			
□ metal	□ skid steers/forklifts	***			
□ roofing material	□ pipes				

If you find Spotted Lanternfly in New York:

- 1. Take pictures of the insect, egg masses, or infestation and, if possible, include something for size, such as a coin or ruler.
- 2. If possible, collect the insect. Place in a bag and freeze, or in a jar with rubbing alcohol or hand sanitizer.
- 3. Note the location (street address and zip code, intersecting roads, landmarks, or GPS coordinates).
- 4. Email pictures and location to spottedlanternfly@dec.ny.gov OR fill out the form at: nysdec.maps.arcgis.com/apps/GeoForm/index.html?appid=41ca19850b734e2faa3332ae36383720, which includes specimen information.
- For more information, visit the New York State Department of Environmental Conservation website: dec.ny.gov/ animals/113303.html



Spotted lanternfly adult.



Spotted lanternfly adult.



Spotted lanternfly adults and egg masses.



Spotted lanternfly early instar nymph. Photo: E. Swackhamer, Penn State Extension



Spotted lanternfly late instar nymph.

*Quarantine areas as of December 2018:

Delaware: New Castle County

New Jersey: Hunterdon, Mercer & Warren Counties

Pennsylvania: Berks, Bucks, Carbon, Chester, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Philadelphia, and Schuylkill Counties

Virginia: Frederick County

Spotted lanternfly has been seen in:

Connecticut: Hartford County

Delaware: Kent County Maryland: Cecil County

New York: Albany, Chemung, Delaware, Monroe, Suffolk and Yates Counties, as well as the Boroughs of

Brooklyn and Manhattan in New York City

Pennsylvania: Adams, Centre, Dauphin, Juniata, Lackawanna, Luzerne, Mifflin, Northumberland, Perry,

Tioga, Wyoming, and York Counties.

Note: Businesses/truckers/common carriers moving items from a quarantine area must complete a Spotted Lanternfly training and obtain a permit.



Department of Environmental Conservation Unless others

This checklist was based on work done by Pennsylvania State University and the Pennsylvania Department of Agriculture.

Unless otherwise noted, all photos by Tim Weigle, NYS IPM. All NYS IPM photos may be used for educational purposes, with the credit line: Photo: NYS IPM.

A Step Above Show and Tell

4-H Public Presentations is a yearly event that gives 4-H youth the opportunity to develop and hone skills in public oration that will empower them for a lifetime. Youth independently choose a topic of interest which they then research. After the research is completed and the method of presentation chosen, youth then begin the work to support their presentation. They organize their ideas in a logical order, creating and using graphics to support their presentation, and develop actual demonstrations when appropriate. Then they practice, practice, practice, all this preparation enables 4-H youth to share their knowledge with others. On Saturday, February 9, 2019, that is just what 57 Schoharie County 4-H members did, as they gathered at the Golding Middle School in Cobleskill to have their 4-H public presentations evaluated by judges. The volunteer judges came from throughout the county and from Dr. Ben Weikert's Agriculture Education Class at SUNY Cobleskill.

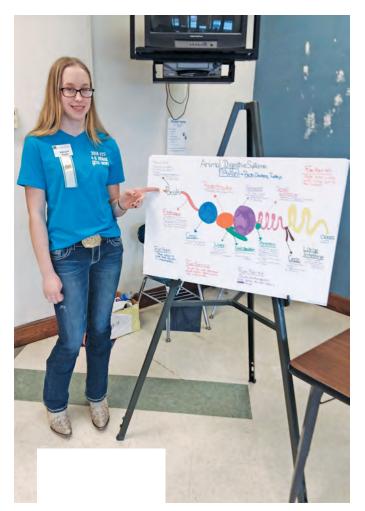
4-H members carried in posters and a variety of items to teach others what they had learned. Some

topics included *How to Show Chickens, Different Cuts of Beef, History of Maple Syrup*, and *Leadership Opportunities for Youth in Agriculture*, and the list goes on. Rather than just tell you about it, here are pictures showing you these future public speakers in action.



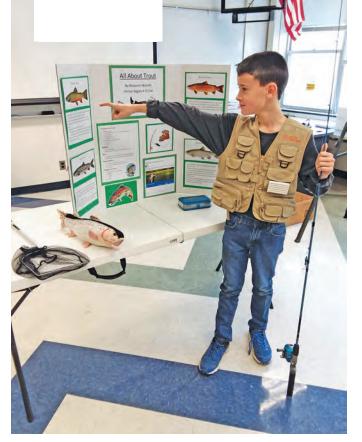














Pricing Rental Farmland in New York



It can be difficult to find the "right price" for your rented farmland: rents can vary depending on dozens of factors related to the agricultural potential of the land, the expectations of the owner, and the needs of potential renters. However, there are a few simple approaches and resources that can help in setting a fair rental rate.

Market rate: The market rate is set by supply and demand: how much land is available, how many farmers are competing for farmland, and the potential profitability of the land. As a landowner, it is useful to know rents charged for nearby parcels of farmland.

To determine the market rental rate in your area, ask a neighbor, check rental listings online or in agricultural newspapers, or contact your local cooperative extension office. The USDA also tracks average county cropland and pasture rental rates (http://bit.ly/coCashRents).

Rule of thumb: Many farmland owners charge 2-3% of the land's value each year. Not sure of your land value? Check the appraisal from your original purchase, arrange an independent appraisal, review records of your and comparable land at your county clerk's office (many counties provide this information online as well), or look up county-level farmland sales prices and other statistics at: http://www.farmland.dyson.cornell.edu. USDA estimates of average county farm real estate values, published every 5 years, may be useful as well: http://bit.ly/nyAgLand.

Covering ownership costs: Many farmland owners' primary interest is that rental payments cover all costs (or a substantial portion) of land ownership. Landownership costs include:

- Property taxes on land and some buildings. Note that an agricultural assessmentcan also lower your property taxes.
- Insurance expenses
- Mortgage interest

Non-financial objectives: If you wish to support a beginning farmer, consider how much the tenant can afford to pay in the first years of his/her operation. If the farmer is just starting out, they may still be paying off one-time "startup" costs. Depending on the commodity, it may also take several seasons for farms to reach their production potential.

If you have a vision of how the land should look and how it should be farmed, make sure to discuss your vision with your prospective tenant and incorporate key requirements in the lease. Consider that such restrictions may impose substantial costs or time constraints on your tenant and adjust rental rates accordingly.

Factors that cause rental rates to vary include:

- Potential productivity of the land, influenced by:
 - Soil type and quality, including fertility, pH, and organic matter level,
 - Field conditions, including weeds, pests, protection from erosion, and drainage,
 - Field size, shape, and slope,
 - Length of growing season,
 - Hours of normal sunlight;
- Location relative to potential tenants, markets, farm resources, other agricultural infrastructure, and services;
- Organic or other certifications;
- Infrastructure such as barns, irrigation, or fencing (also consider who will bear responsibility for infrastructure improvements);
- Surroundings: will production practices of nearby farmers affect the tenant? Is your land affected by local ordinances on farmers' rights and responsibilities?

Make it official: After you and your tenant have agreed on the price and terms, finalize the rental with a written lease agreement. A formal lease ensures that both parties understand their obligations, and protects you from unforeseen events.

If you would like to draw up the lease yourself, several organizations provide sample farmland lease templates online (http://bit.ly/samplelease) that can be used after being modified for your situation. Have a lawyer review the agreement before you sign it. Once you and the tenant have signed, register the lease with your county clerk.

Agricultural Experiment Station (Multistate project 1007199) and Cornell Cooperative Extension (Smith Lever) received from the National Institutes for Food and Agriculture (NIFA) U.S. Department of Agriculture. For more information, contact Jennifer Ifft, jifft@cornell.edu.



CHICKEN TORTELLINI SOUP

A quick alternative to canned soup



Ingredients

4 cups low-sodium chicken broth 1 cup mixed vegetables, frozen

1/4 teaspoon thyme

1/4 teaspoon marjoram

1/4 teaspoon basil

1 cup cooked chicken, cubed

1 cup cheese tortellini

Directions

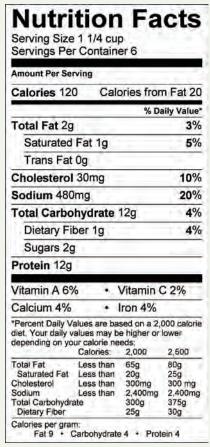
- 1. In a large saucepan, combine broth, vegetables, and seasonings.
- 2. Bring to a boil. Add tortellini and reduce heat. Simmer 12 to 25 minutes or until vegetables and tortellini are tender.
- 3. Add cooked chicken to soup and heat through.

Notes:

- Substitutions can be made in seasonings.
 Consider substituting ¼ teaspoon celery seed,
 ½ teaspoon dill weed, and 1 teaspoon minced onion in the recipe, or try your favorite combination.
- Additional leftover vegetables could also be added to or used in place of frozen vegetables.
- You can use leftovers from a store-bought rotisserie chicken or chicken you have cooked yourself.

Know the facts . . .

- Tortellini are small ring-shaped pasta stuffed with meat or cheese. It is distinct from tortelloni which is a similar shape but larger. It is also known as "ombelico" pasta because of its belly-button shape.
- Soups can be found in 99% of American homes.
- The Campbell Company introduced condensed soups in 1897.
- For our companion recipe, **English Muffins**, go to cceschoharie-otsego.org/connections. Find the recipe link in left menu.
- Join our Expanded Food and Nutrition Education Program (EFNEP) and cook with your kids at Cornell Cooperative Extension, or in the privacy of your own home. Contact us or join us on Facebook: EFNEP CCE Schoharie and Otsego Counties.



Serves 6

Smarter Snacking

In the month of January, 4-H went on the road. 4-H Educator Teresa Adell shared how to make healthy snacks with budding chefs in the CCE's 4-H Afterschool programs in Schoharie and Cobleskill-Richmondville at their respective schools.



After-schoolers listen to smarter snacking instructions from Teresa.

Youth learned hands on how to make healthy heart snack choices, like bread in a bag, apple boats, rabbit snacks, and crunchy fruit sundaes.

After-schoolers enthusiastically endorsed that these snacks were quick and easy to make and tasted great. Each student was given copies of the recipes, so they could go home and share the bounty with their families. These low-fat, high nutrient snacks encourage smarter snacking.



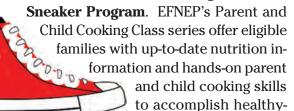
Budding After-school Chefs in action.



Step Right Up and Earn a Pair of Sneakers!



Cornell Cooperative Extension's Expanded Food and Nutrition Education Program (EFNEP) is again partnering with Bassett Research Institute's 5210 Initiative to encourage EFNEP eligible families to eat healthier and to increase physical activity by participating in the **Parent & Child Cooking Class and**



living goals. The sneakers stipend is awarded by the Bassett 5210 Initiative; they will award certificates for athletic footwear from the Shoe Department Store to every adult with children completing the six lessons. Each adult will receive two certificates, one a \$40 value for an adult and one a \$30 value for a child, supporting the Initiative's goal that everyone has one or more hours of physical activity a day. The program is offered during May, June, and July, but class size is limited. Check out the events page in this issue of *Connections* under *Save These Dates* for more details and how to register.

Continue the Connections experience and read our next issue coming out in May. We will introduce Healthy-Connections.us, a new nutrition-food-fitness initiative. Also learn more about two invasive species—the wild parsnip, a troublesome weed that can cause serious skin lesions, and a new threat, the jumping worm. Look for a new healthy, easy-to-prepare family dinner recipe created by our EFNEP program, and so much more. Your suggestions for content are always welcome. Write Assistant Editor, Jan Ryder, at jrc28@cornell.edu.

Gardening Concerns?



Seeking Gardening Advice? If you are perplexed or vexed by a gardening question, the **Master Gardener Helpline** is your resource. Master Gardeners offer research and evidence-based information to help you enjoy gardening. Call or email, and a volunteer will contact you.

In **Schoharie County**: Call: 518-234-4303 (x124) or email: schoharie@cornell.edu

To register for their workshops, visit cceschoharieotsego.org/SchoharieMGEventRegistration

Like them on facebook.com/CCESchoharieMG.

In **Otsego County**: Call 607-547-2536 (x228) or email: mastergardener-otsego@cornell.edu

To register for their workshops, visit cceschoharieotsego.org/OtsegoMGEventRegistration

Like them on facebook.com/CCEOtsegoMG.

Check out the **events page in this newsletter** to stay up to date on workshops and happenings offered by Master Gardeners in both counties. Remember pre-registration is required for all workshops.

Master Gardener update:



(Asian) Jumping Worms (*Amynthas spp.*) threaten forests by dramatically altering soil structure and chemistry. After the

worms impact an area, native forest plants, soil invertebrates, fungi, birds, and other animals disappear from the forest because the area can no longer support them. In residential and urban areas, the worms can harm ornamental plantings and turf. They create a larger, more destructive impact because they don't need to mate to reproduce.

Concerned about the worm and what to do? Coming in the May-June issue of Connections, Schoharie and Otsego Master Gardeners will provide readers with the worm's life cycle and a series of measures and recommendations to reduce the risk of spreading the worm. Meanwhile, you can visit http://ccecolumbiagreene.org/resources/ccejumping-worm-fact-sheet for more information.

NEWSLETTER SUBSCRIPTION

To subscribe to *CONNECTIONS*, the free, bi-monthly enewsletter of Cornell Cooperative Extension Schoharie and Otsego Counties, visit our website, cceschoharie-otsego.org. Click on the *CONNECTIONS* link, then click on the button in the upper right corner and complete the registration. By subscribing, you are assured of receiving future issues without missing any news or programs of the Association. Printed copies are also available at the Association offices in Cobleskill, Cooperstown, and Oneonta. Cornell Cooperative Extension Schoharie and Otsego Counties does not share personal information of subscribers with third parties. Our emails are to keep you informed of current events. If you do not wish to receive notices, you may unsubscribe at any time.



Otsego Master Gardener GROW Initiative: Gardening for Good



The Goal-Oriented Rural Outreach Work Initiative (GROW) is a grant-funded, kick-starter project that partners Master Gardeners with Otsego County organizations who desire to undertake projects that will enhance, beautify, and educate their communities through collaborative work promoting and extending the horticultural, Garden-Based Learning, and environmental practices of Cornell University and Cornell Cooperative Extension.

Since 2016, the grant has provided funding (\$225 maximum amount) for short-term projects that have a specific goal in mind. These are done in collaboration between Master Gardeners and the organization. The projects can then be independently carried on in the future.

GROW Projects 2016 - 2018



Joy of Life Garden - In Worcester, Master Gardeners collaborated with St. Joseph's Church to restore a neglected hill-side garden. With help from the wider community, the garden was restored, new plantings were thematically chosen, and is now a lovely retreat for the entire community.

Master Gardeners also collaborated with the Worcester Free Library to create, educate, and demonstrate raised-bed gardening with an emphasis on attracting pollinators. Books on pollinators were donated to the library. The project and the vegetables were showcased on Worcester Day.

The Laurens Historical Society collaborated with the Master Gardeners to refurbish and expand an herb garden at the Laurens Public Library, with a focus on herbs used for cooking, preserving, and medicinal uses, from the past to the present day. The garden was shared with the community with tours and samples of herb-infused food and drink during Laurens Community Day.





Master Gardeners and the Oneonta Community Garden collaborated on two projects. In 2016, the collaboration was to implement a no-till approach to gardening through greater use of composting green waste. A composting workshop was held, and composting bins were constructed that continue to be used today.





In 2017, a second collaboration was developed to build a demonstration garden using no-till raised beds. The produce grown in the demonstration garden is donated to The Lord's Table, an Oneonta feeding program that offers a free hot meal every weeknight to all who come through the doors.



Oneonta Girl Scout Troop 30132 received a collaborative GROW grant to create a special garden in Fortin Park. The project was important to the members since each girl had experience with someone close to them who was or had been dealing with cancer. Master Gardeners joined a number of other organizations to help the troop complete the



project. On September 30, 2018, the Girl Scouts dedicated the Cancer Survivor and Memorial Garden at Fortin Park, creating a beautiful memorial and earning them the Silver Award, the second highest award Girl Scouts can earn.

In 2018, Master Gardeners collaborated with the St. Mary's Food Pantry to provide a positive gardening experience for a number of residents who live primarily in senior, affordable living complexes in Oneonta, a population that is often underserved. Working together, they planted dwarf tomato plants in buckets that then were nurtured throughout the summer. The project provided a healthy edible to enhance their nutrition, an opportunity for some outside exercise, and a chance to socialize with others. The collaborators and participants communicated throughout the summer, culminating in a celebration. All want to garden again.

The GROW grants kick-started a number of projects that are now self-sufficient or moving in new directions, growing in many ways beyond the original goal. The Master Gardeners used their knowledge and a small amount of funds raised by Otsego County Master Gardeners to help community groups grow for the community good.

For further information, contact the Otsego Master Gardener office at 607.547.2536 (x228), or email mastergardener-otsego@cornell.edu



A small patch of garlic mustard in flower.

Are You a Garlic Mustard Enabler?

BY JAN RYDER

Garlic mustard (Alliaria petiolate), also known as Jack-by-the-hedge, is an herbaceous non-native invasive plant in the mustard family (*Brassicaceae*) that comes to us from Europe and parts of Asia. Originally introduced over 150 years ago for use as a medicinal herb and food, this invasive has spread and become one of the worst invaders of forests in the Northeast and Midwest. It flourishes in a variety of habitats and conditions. When garlic mustard invades an area, it becomes entrenched laying down a seed bank that extends its continuous presence for years to come, taking over the understory, pushing out native plants, even changing the soil composition, limiting tree seedlings from growing, driving out native insects, and thereby the birds and mammals that feed on them.

Garlic mustard is produced entirely by seed. The plant has a biennial lifecycle, flowering only in the

Garlic mustard rosettes, first-year plants.

second year of growth, often appearing less numerous in some years because of that. The first year produces a low growing plant with clusters of three to eight rounded, kidneyshaped leaves with scalloped edges, and a wrinkled appearance The plant remains in the rosette stage for most of the first year regardless of when it germinates, and remains green all winter. In the second year, the plant is usually single

stemmed, unless cut, then it can develop multiple stems. The leaves on a mature plant are more triangular and coarsely toothed, becoming smaller at

the top. The plants smell like garlic, especially when the leaves are crushed. Garlic mustard typically grows to a height of three feet, but it can grow between a few inches to six feet. The flowers are in clusters of small, white four petal blossoms at the top of the stem which appear in late April and May. The plant is able to cross pollinate or selfpollinate. Seed production soon follows. Growing in a row inside a capsule, seeds are black when ripe. Each plant typically produces 350-600 seeds. Plants die off in June. Seeds typically germinate in one to two years but can remain viable for more than five years after production. Stands of garlic mustard can double in size every four years. Because the



Second-year plants.



Garlic mustard flowers.

plant is allelopathic, it produces chemicals that inhibit the growth of other plants in the area, thus



Garlic mustard seed pods.

out-competing native plants by aggressively monopolizing light, moisture, nutrients, soil, and space.

The flowers, leaves, stems, roots and seeds are all edible in any season. Some people say young plants are best while others prefer leaves and stems from second year plants. No matter the preference it is important not to compost any part of this

plant. It can be eaten raw or cooked. Garlic mustard, unlike other members of the Brassica family, contain measurable levels of cyanide, and it should be consumed with some measure of caution. Although this herbaceous plant is edible, some states prohibit the marketing of any part of this plant.

Our consumption of garlic mustard is nominal, and it is not a preferred source of food for wildlife. Even white-tail deer rarely feed on it and may actually encourage its growth by consuming the surrounding native plants at the same time trampling the soil and stimulating garlic mustard seed germination. Because the seeds are small, they are easily carried and spread by animals, people, vehicles, water, birds, and other vectors.



Garlic mustard dried.

I myself have inadvertently enabled the spread of garlic mustard. In past springs I have pulled this plant from gardens and flower beds, adding it to my weed pile and thereby moving it to new locations. In the late summer and fall, I've picked the distinctive stem for dried flower arrangements, shaking off the seeds in the process. Now that I am better informed, I will not be doing this in the future. With all that

I have learned about garlic mustard it is easy to see how this plant has become a dominant understory species in woodland and floodplain habitats, making its eradication difficult, but not impossible.

Pulling by hand, removing at least the upper half of the root which often has an S-shaped bend near the top, prevents a new stalk from forming and is an effective eradication method; this is most easily accomplished in the spring when the soil is soft. Hand-pulling should be performed before seeds are formed, and the effort needs to be continued yearly for up to five years in order to deplete any established seed bank.

Be sure to clean tools, boots, and clothes carefully to avoid carrying seeds to new sites. Since seeds can form on plants in flower that are pulled or cut and left on the ground, they should be removed before they go to seed, bagged and discarded in the garbage. This method works best in smaller pockets of invasion, where large groups of people are involved, or in areas recently invaded to help prevent the development of a seed bank.

Cutting plants a few inches above the soil surface just after flower stalks have elongated but before flowers open can also be effective but will need repeated monitoring and cutting throughout the season.

In areas where dense stands are too large for removal by hand and where other plant species are not



Bagging pulled mustard garlic.

present, a 1% or 2% solution of glyphosate (there are many brands) can be used for control. Glyphosate herbicides are non-selective, so caution must be used when non-target species are in the area. Chemical applications are most affective during the spring (March-April) when garlic mustard is one of the few plants actively growing. Fall applications may be used; however other plant species still in their growing season may be harmed. Be sure to follow product label directions for use and all laws and regulations for herbicide use on the site. Wear protective gear.

The best method for controlling garlic mustard, or any other invasive plant, is to prevent its establishment. So, what can you do?

- Learn how to identify garlic mustard.
- Effectively manage garlic mustard on your property.
- Join or organize an early spring garlic mustard pull event on public lands.
- Dispose of this invasive plant in the garbage.
 Do not compost or discard them in natural areas.
- When hiking stay on trails and leash pets to avoid seed spread.
- Monitor non-infested areas frequently.

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Cornell Cooperative Extension Schoharie and Otsego Counties

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- Producers participate in an environmental management program

Funding opportunity

New York State Department of Agriculture and Markets has provided funding to assist producers to meet the obligations to participate or remain in the NYS Grown & Certified program. Producers may apply for up to \$50,000 per farm; applicants are required to contribute 10% of the total grant award in the form of cash equity.

For more information and application materials

Schoharie and Otsego County producers should contact:

David Cox, Ag/Hort Program Leader, 518-234-4303 (x119), dgc23@cornell.edu (Schoharie)
Jim Barber, Otsego Ag Implementation Specialist, 607-547-2536 (x227), jrb248@cornell.edu (Otsego)

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You can also give your support directly to CCE Schoharie and Otsego Counties using the form below:

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