Cornell Cooperative Extension | Cornell Vegetable Program

VEGEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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Nitrogen Costs Are Up...and So Are Our Cover Crops!

Judson Reid, Cornell Cooperative Extension, Cornell Vegetable Program

Recent studies reveal a rapidly changing economic reality for NY vegetable farmers. Potassium and phosphorus fertilizer indices nearly doubled over the last year, and nitrogen, in some cases, tripled! Analysts predict that farmers will continue to face much higher fertilizer prices in the coming season, as natural gas prices further increase the cost of nitrogen. However, ongoing research by Cornell Vegetable Program contributes to farm sustainability by reducing reliance on shipped-in nitrogen and decreasing input costs.

Leguminous cover crops provide the benefit of nitrogen fixation through their relationship with soil based Rhizobacteria. These microorganisms colonize the root system of legumes such as peas, clover or alfalfa, fixing atmospheric nitrogen in the soil. The combination of a grain with the legume is often considered beneficial for the germination and establishment of the legume. With the increased nitrogen demand of crops grown in high tunnels, and the lack of research on cover crops inside, we've embarked multiple research projects to increase our working knowledge of cover crops as a rotation with tomatoes in tunnels.

Our earliest seeding date yet for a high tunnel cover crop: August 30! This is the most biomass we've ever had this early. *Photo: CCE Cornell Vegetable Program*

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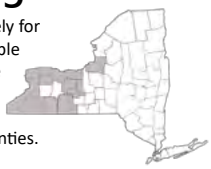
About VegEdge



VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program team, and Cornell University.

We're interested in your comments. Contact us at:
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Help us serve you better by telling us what you think. Email us at *cce-cvp@cornell.edu* or write to us at Cornell Vegetable Program, 480 North Main Street, Canandaigua, NY 14424.

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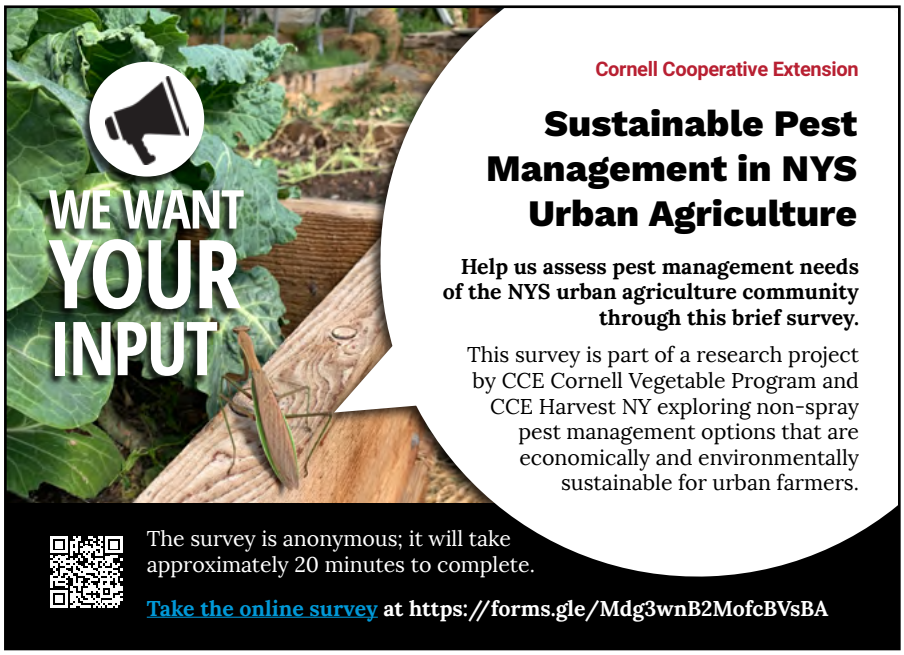
The next issue of VegEdge newsletter will be produced on December 1, 2022.



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Our previous research taught us 3 important lessons:

- **Plant early.** The earlier we seeded cover crops, the more biomass when compared to later seeded crops.
- **Combine legumes with a grain.** We documented a triticale and field pea mix outperforming triticale alone.
- **Row cover increases biomass.** All treatments with a mid-winter floating row cover yielded more biomass.

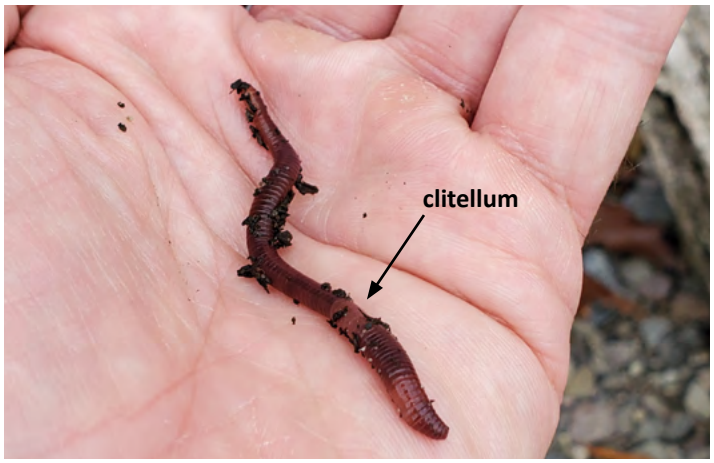
Putting this all together, we can say early plantings of mixed species under row cover will give us higher high levels of home grown nitrogen. With a Cornell Vegetable Guidelines recommended rate of 125-150 lbs. of N/ac for tomatoes, our project demonstrated tremendous potential to reduce input costs. In our best trials, we've grown almost 100 lbs. N/ac!

But, can you be too early in planting your cover crop? In 2022, we went with our earliest planting date ever: August 30! Today, this cover crop is waist high as we enter our fall biomass sampling dates. Will this be too much? Will the crop lodge and succumb to Gray Mold? Will the larger stems be more susceptible to freeze damage? Stay tuned for updates!

Caution! Jumping Worms!

Judson Reid, CCE Cornell Vegetable Program

Jumping Worms were recently discovered in commercial compost and potting soil at a local greenhouse. These worms appear similar to other earth worms; however, they have a more pronounced ring (clitellum) near their head, and move about in distinct sudden twitches. They do not always 'jump', but do appear more snakelike in their movement. These invasive worms are of concern as they multiply rapidly and lead to poor soil conditions, which interfere with seedling growth. Jumping worms are not considered a major agricultural threat, however their distribution through landscape materials is discouraged. There are no 'treatments' for Jumping Worms, so prevention is critical. Adult worms do not overwinter here, however their cocoons easily survive sub-freezing temperatures. Compost piles should reach a temperature of over 104°F for 3 days to kill cocoons. New sources of compost and potting soil should be inspected for infestation.



Jumping Worms appear similar to other earth worms; however, they have a more pronounced ring (clitellum) near their head, and move about in distinct sudden twitches. Their rapid proliferation and feeding habits are hard on soil and seedlings. *Photo: J. Reid, Cornell Vegetable Program*

AG ENERGY NY

A Project of Cornell Cooperative Extension

Would you like to save on your farm energy bills? Farms are often full of opportunities to reduce energy use through efficiency measures that save money, labor, and maintenance costs. Energy efficiency also helps buffer farms from volatile, high costs in energy market fluctuations. In addition to these benefits, farm energy efficiency is an important part of New York's Climate Leadership and Community Protection Act, reducing emissions and making it easier to transition to electric power and renewable energy. Energy inputs are required at every stage of farm production – from soil preparation and harvesting crops, to heating and lighting livestock housing. Farms can get substantial energy savings and enhance productivity through equipment maintenance, fine-tuning equipment and fertilizer rates, improving building efficiency, and installing high-efficiency motors or lighting when old equipment needs to be replaced.

What is Ag Energy NY?

Ag Energy NY is a program by Cornell Cooperative Extension, developing a resource hub to support farm energy efficiency in New York. AgEnergyNY.org includes mobile-friendly webpages and print-friendly factsheets to help farmers learn about potential energy use and savings specific to their farm sector. Ag Energy NY focuses on the following farm sectors: crops and vegetables, beef, swine, poultry, grain drying, maple, orchards, berries, and vineyards. Ag Energy NY is part of a broader NYSERDA program, Energy Best Practices in Agriculture, which also provides support for dairy and greenhouse operations. Technology content for Ag Energy NY was developed by Daylight Savings Company based on their experience conducting agricultural energy audits in New York since 1991, along with review of technical references, peer-reviewed research, and industry standards. Other program content, such as web development and outreach materials, are developed and reviewed by extension educators, NYSERDA staff, and engineers with a focus on farm energy efficiency.

After reviewing energy efficiency measures online, you can reach out to our team with questions and to connect with a NYSERDA FlexTech Consultant for farm-specific advising. NYSERDA offers no-cost, no-commitment energy assessments to help farmers prioritize areas for improvements and identify incentives to help with implementation. To get started, visit **www.agenergyny.org**.

Cleaning and Disinfecting the Greenhouse

Prepared by Tina Smith, UMass Extension Educator, Greenhouse Crops and Floriculture Program (retired). Updated by Lisa McKeag, 2020; from UMass Extension Vegetable Notes, Vol. 34, Iss. 23, 10/20/22

If you've had reoccurring problems with diseases such as damping off, or insects such as fungus gnats or aphids, perhaps your greenhouse and potting areas need a good cleaning. Vegetable growers are now mostly done using their greenhouses for planting, and if they are not being used to cure or store fall crops, or for winter greens, now is a good time to clean the houses well before next season's big rush. Some growers wait until the week before opening a greenhouse before cleaning debris from the previous growing season, but it's better to clean up as early as possible to eliminate over-wintering sites for pests and to reduce their populations prior to the spring growing season—pests are easier to prevent than to cure.

Cleaning

Cleaning involves physically removing weeds, debris and soil, and is the first step prior to disinfecting greenhouse surfaces and equipment. Soil and organic residues from plants and growing media reduce the effectiveness of disinfectants. There are some cleaners specifically developed for greenhouse use, for example Strip-It, which is a combination of sulfuric acid and wetting agents formulated to remove algae, dirt, and hard water deposits. Some growers use a wet/ dry vacuum on concrete and covered floors to remove debris. High-pressure power washing with soap and water is also an option. Soap is especially useful in removing greasy deposits. Thorough rinsing is needed because soap residues can inactivate certain disinfectants such as the Q-salts.

Begin at the top and work your way down. Sweep down walls and internal structures and clean the floor of soil, organic matter and weeds. Disease-causing organisms can be lodged on rafters, window ledges, tops of overhead piping and folds in plastic. Extra care is needed to clean these areas as well as textured surfaces such as concrete and wood, which can hide many kinds of pests. Install physical weed mat barriers if floors are bare dirt or gravel and repair existing mats to prevent weeds and make it easier to manage algae. Avoid using stone on top of the weed mat, as soil and moisture will then get trapped, creating an ideal environment for weeds, diseases, insects and algae.

Irrigation filters should also be cleaned to remove dirt and microbial buildup (or biofilm) at the end of the growing season. Growers often use products labeled for cleaning irrigation systems such as sulfuric acid plus wetting agent (e.g. Strip-It) or sanitizers containing hydrogen peroxide and peroxyacetic acid (e.g. SaniDate) to flush out slime and debris.

Disinfecting

Many pathogens can be managed to some degree, using disinfectants. For example, dust particles from fallen growing medium or pots can contain bacteria or fungi such as *Rhizoctonia* or *Pythium*. Disinfectants will help control these pathogens. In addition to plant pathogens, some disinfectants are also labeled for managing algae, which is a breeding ground for fungus gnats and shore flies.

Greenhouse Benches and Work Tables

If possible, use benches made of wire or other non-porous materials such as a laminate that can be easily disinfected. Wood benches can be a source for root rot diseases and insect infestations. Algae tend to grow on the surface of the wood creating an ideal environment for fungus gnats and shore flies, and plant pathogens can grow within the wood. Plants rooting through containers into the wood will develop root rot if conditions are favorable for pathogen activity. Disinfect benches between crop cycles with one of the labeled products listed below. Keep in mind that disinfectants are not protectants—they may destroy certain pathogens, but will have little residual activity.

Cleaning Containers

Plant pathogens such as *Pythium, Rhizoctonia*, and *Thielaviopsis* can survive in root debris or soil particles on greenhouse surfaces. If a crop had a disease problem, then avoid re-using containers. Containers to be re-used should be washed thoroughly to remove soil particles and plant debris before being treated with a disinfectant, even if there is no evidence of disease in the crop. Debris and organic matter can protect pathogens from contacting the disinfectant solution and can also reduce efficacy of certain disinfectants.

Disinfectants for Greenhouses

If possible, disinfectants should be used on a routine basis both as part of a pre-crop clean-up program and during the cropping cycle. There are several different types of disinfectants that are currently used in the greenhouse for plant pathogen and algae control listed below. Remember that sanitizers and disinfectants are pesticides and may have serious health consequences if not used according to their labels. Be sure to use an appropriate product for the pathogen and for the surface material you are trying to disinfect and use good ventilation and proper personal protective equipment.

Quaternary ammonium chloride salts (Green-Shield II®, Physan 20®, KleenGrow™)

Q-salt products, commonly used by growers, are quite stable and work well when used according to label instructions. Q-salts are labeled for fungal, bacterial, and viral plant pathogens, as well as algae. They can be applied to floors, walls, benches, tools, pots, and flats as disinfectants. Physan 20® is also labeled for use on seeds, cut flowers, and plants. Carefully read and follow label instructions. Use directions may vary according to the intended use of the product. For example, the GreenShield II® label states that objects to be disinfected should remain wet with the product for 10 minutes, and walkways for an hour or more. Instructions allow that surfaces can be wiped or air-dried after treatment. For cutting tools that are being dipped between uses,

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one way to allow them to remain wet for the appropriate amount of time is by having two cutting tools, one pair to use while the other is soaking.

Q-salts are not protectants.

Q-salts will kill the pathogens for which they are labeled on contact but will have little residual activity. Presence of organic matter will inactivate them, so pre-clean objects to dislodge organic matter prior to application. KleenGrow™ does have a higher organic matter tolerance and longer residual activity on hard surfaces. Because it is difficult to tell when the product becomes inactive, prepare fresh solutions frequently (twice a day if in constant use). The products tend to foam a bit when they are active; when foaming stops, it is a sign they are no longer effective. No rinsing with water is needed.

Hydrogen dioxide and peroxyacetic acid (ZeroTol® 2.0, OxiDate® 2.0, SaniDate®12.0)

Hydrogen dioxide kills bacteria, fungi, algae, and their spores immediately on contact. It is labeled as a disinfectant for use on greenhouse surfaces, equipment, benches, pots, trays, and tools, and for use on plants. Label recommendations state that all surfaces should be wetted thoroughly before treatment. Several precautions are noted. Hydrogen dioxide has strong oxidizing action and should not be mixed with any other pesticides or fertilizers. When applied directly to plants, phytotoxicity may occur for some crops, especially if applied above labeled rates or if plants are under stress. Hydrogen dioxide can be applied through an irrigation system. As a concentrate, it is corrosive and causes eye and skin damage or irritation. Carefully read and follow label precautions. Note that OxiDate® and SaniDate® are OMRI-approved for organic production. Sodium carbonate peroxyhydrate (GreenClean Pro Granular Algaecide®) is a granular and is activated with water. Upon activation, sodium carbonate peroxhydrate breaks down into sodium carbonate and hydrogen peroxide. GreenClean is labeled for managing algae in any non-food water or surfaces. Non-target plants suffer contact burn if undiluted granules are accidentally spilled on them.

Chlorine bleach

There are more stable products than bleach to use for disinfecting greenhouse surfaces, but when used properly, it is an effective disinfectant; it has been used for many years by growers. Chlorine bleach may be used for pots or flats, but is not recommended for application to walls, benches, or flooring. A solution of chlorine bleach and water is short-lived and the half-life (time required for a 50% reduction in strength) of a chlorine solution is only two hours. After two hours, only ½ as much chlorine is present as was present initially. After four hours, only ¼ is there, and so on. To ensure the effectiveness of chlorine solutions, it should be prepared fresh just before each use. The concentration normally used is one part of household bleach (5.25% sodium hypochlorite) to nine parts of water, giving a final strength of 0.5%. Some bleach products are more concentrated—check the percent active ingredient for the product you are using and see the label for the recommended dilution rate. Chlorine is corrosive. Repeated use of chlorine solutions may be harmful to plastics or metals. Soak objects to be sanitized for 30 minutes and then rinse with water. It should also be noted that bleach is phytotoxic to some plants, such as poinsettias. Chlorine can also irritate the respiratory system and so should only be used in well-ventilated areas.

Alcohol (70%)

Alcohol is a very effective sanitizer that acts almost immediately upon contact. It is not practical as a soaking material because of its flammability. However, it can be used as a dip or swipe treatment on knives or cutting tools. No rinsing with water is needed. Alcohol, although not used as a general disinfectant is mentioned here because it is used by growers to disinfect propagation tools.

OMRI-listed organic disinfectants

Organic disinfectants include OxiDate 2.0, SaniDate 12.0, ZeroTol and others. Ethyl or isopropyl alcohol is used to disinfect tools. ***Organic growers should always check with their certifying organization before using any material new in their growing practices.*** For list of products, visit the OMRI website.

This information is supplied with the understanding that no discrimination is intended and no endorsement of any particular product is implied. Due to constantly changing regulations, we assume no liability for suggestions. If any information in this article is inconsistent with the label, follow the label.

Managing Algae

Algae are a diverse grouping of plants that occur in a wide range of environments. Algae growth on walks, water pipes, equipment, greenhouse coverings, on or under benches, and in pots is an ongoing problem for growers. Algae form an impermeable layer on the media surface that prevents wetting of the media below and can clog irrigation misting lines and emitters. Algae are a food source for insect pests like shore flies and cause slippery walkways that can be a liability risk for workers and customers. Recent studies have shown that algae are brought into the greenhouse through water supplies and from peat in growing media. In a warm, moist environment with fertilizer, the algae flourish. Proper water management and fertilizing can help to slow algal growth. Avoid over-watering slow-growing plants, especially early in the production cycle. Allow the surface of the media to dry out between watering. Avoid excessive fertilizer runoff and puddling water on floors, benches, and greenhouse surfaces. The greenhouse floor should be level and drain properly to prevent the pooling of water prior to installing a physical weed mat barrier. Algae management involves an integrated approach involving sanitation, environmental modification, and frequent use of disinfectants.

For references and resources, see the online version of this article.

Agricultural Water Quality Assessment

Ag water includes surface water sources including ponds, creeks, streams, canals, lakes, water storage tanks, and wells. Contaminated agricultural water from these sources, used for irrigation, that comes into contact with produce in the field can lead to human food-borne illness. This session will go over the basics of identifying, assessing, preventing, or dealing with potential problems. If your farm falls under Food Modernization Act regulations, the ag water assessments are expected to become a requirement (by farm size) in 2023-24. Regardless of the regulations, any produce farm using surface water/wells can benefit from learning what factors influence ag water quality.

Tips for Improving Flow and Efficiency in Wash/Pack Facilities

Learn how to create an efficient process, from harvest through wash/pack activities. Share your experiences and questions, regardless of the size of your farm operation.

Cleaning and Sanitation Updates

Industry information on sanitizers and choosing the right one for your farm operation.

Yes! Harvest Bins and Fruit Picking Bags CAN be Cleaned and Sanitized -- *Faith Critzer, University of Georgia, and Laura Straw, Virginia Tech*

Discussion on how to clean and sanitize hard to clean things on your farm.

Traceability Procedures

If you are following GAPs/HGAPs food safety programs, you are already familiar with traceability of produce. FDA will be releasing a new regulation that will require farms to be part of a universal traceability program to expedite finding sources of outbreak problems. Note: The regulations will pertain to certain crops for farms where their buyers are required to be covered by the traceability regulation.

New York State has created a traceability program that can help growers and buyers be on the same page for produce being grown and sold in New York. Steve Schirmer, Produce Safety Field Administrator for NYS Department of Agriculture and Markets, will lead this discussion.

What are the Most Common Food Safety Issues Seen on Produce Farms? -- *Kristina Sweet, Ag Development Chief, Vermont Agency of Agriculture*

What barriers or issues have some farms faced when attempting to implement food safety practices? The information presented here is equally as important for operations that don't fall under the FSMA regulations as the farms that must meet the regulations.

Cost and Registration

$15 per person; lunch is included. Pre-registration is required by November 30, 2022. To pre-register, email Kimberly Cummings at kjc259@cornell.edu or call 315-331-8415.

More Information

Contact Robert Hadad at 585-739-4065 for more information.

Hosted by

CCE Cornell Vegetable Program, CCE Lake Ontario Fruit Program, and CCE Wayne County

Cornell Cooperative Extension

Postharvest Handling and Storage

Chris Callahan, UVM Extension Ag Engineering; taken from the upcoming 2023-2024 New England Vegetable Management Guide; reprinted from UMass Extension Vegetable Notes, Vol. 34, Iss. 23, 10/20/2022

Harvested vegetables are living things that carry on the process of respiration and other biological and chemical processes. How produce is handled after harvest will directly affect quality characteristics such as appearance, flavor, texture, and nutritional value. Attention to postharvest quality can increase repeat sales and support higher prices.

Control of postharvest quality essentially comes down to limiting respiration rate (lowering temperature), controlling water loss (maintaining proper relative humidity), minimizing physical damage to the product (harvesting and handling with care), and avoiding contamination (handling, washing, and storing appropriately).

Limiting Respiration

Respiration is a temperature dependent biochemical process that converts carbon in plant tissue (mainly sugars) to carbon dioxide (CO_2) and water (H_2O) while producing some heat. Rates of respiration vary by crop (see Gross 2016, table p. 7 and text pp. 68-75) and should be considered when sizing cooling equipment. Fortunately, we can significantly reduce respiration, and therefore maintain high product quality, by reducing product temperature (precooling) and keeping it low (holding or storage cooling). This concept is known as establishing the "cold chain"; a chain of reduced temperature that connects the field to the consumer ensuring the highest quality produce possible by minimizing respiration.

From the moment of harvest, product quality will deteriorate. Intentional precooling of produce directly after harvest helps quickly reduce the rate of respiration and initiates the cold chain. Examples of precooling include scheduling harvest activities at cooler times of day, shading harvested product in the field prior to transport, forced air cooling through Bins of squash. Photo: Umass Veg Program 4 the packed product with refrigeration, hydrocooling with cool water, and vacuum cooling via evaporation. Once cooled to storage temperature, reliable, refrigerated storage is necessary to maintain high quality.

It is important to note that not all crops can be cooled to the same temperature without resulting in cold or freeze injury and some crops are sensitive to the method of cooling. Crops have different susceptibility to chilling or freeze injury depending on their physiology. Good guidance is available (see Gross 2016, pp. 62-67) and is summarized in Table 16 of the New England Vegetable Management Guide. Common precooling methods are also noted in Table 16. Additionally, a computer-based crop storage planner is available for determining appropriate grouping of your crops and estimating overall respiration load (see Callahan 2016). Chilling injury is also an important consideration when considering particularly sensitive fall-harvested crops and the possibility of lower nighttime temperatures, e.g., winter squash.

Controlling Water Loss

The control of water loss requires careful attention to the relative humidity (RH) of the air surrounding stored product in addition to temperature. RH is a measure of the amount of water vapor in air compared to the maximum amount that can be saturated in that air at a given temperature. Most, but not all, crops are ideally stored at higher RH to prevent water evaporation into the air leading to water loss. The loss of water reduces the weight of the crop and can lead to lower quality and poor appearance. Some crops, such as onions, garlic, and winter squash, are purposefully "cured" or dried resulting in drier outer skin and curing harvest wounds to allow long term storage. Because this results in a paper-like layer, these crops are generally stored at lower RH to prevent development of postharvest disease such as molds and fungi on this outer skin. Other than these examples, most crops are best stored at 90%-95% RH with specific guidance provided in Table 16, in the crop storage planner noted above, and in the literature (see Gross 2016).

[Some storage crops are also particularly sensitive to injury from exposure to ethylene, a plant hormone released by fruits and vegetables. Avoid storing ethylene-sensitive crops with crops that produce significant amounts of ethylene. See the UMass Vegetable Program fact sheet, Optimal Storage Conditions and Ethylene Sensitivity of Fall Storage Crops. ed. UMass Extension]

Minimizing Physical Damage

Generally speaking, produce crops live a very gentle life until harvested. Starting with harvest, produce is moved and handled for the first time and, typically, many times after. With each movement there is a risk of physical damage. Even if the damage is not obvious, it can result in bruising or other cell tissue damage that becomes evident later, and can led to postharvest disease and pathogens. Even during harvest, crops can suffer "harvester blight." For the majority of crops, gentle handling, crates with smooth and clean surfaces, and conveyance with elastic and soft belts and rollers should be used.

Avoiding Contamination

Sorting and culling are also important practices at this stage. As the saying goes, "one bad apple can spoil the bunch". Sorting allows for different sizes and grades of product to be stored and sold separately and culling can separate damaged or lower quality product from the main lot. Culls can be used for sale, rescue donation, or compost depending on the defect. The removal of obviously damaged product from the lot helps minimize cross-contamination with postharvest pathogens to a larger portion of the stored product. Produce can be rinsed to remove soil and debris, and often a sanitizer is added to the rinse water to prevent cross-contamination with plant and human pathogens from one item of produce to another in the same batch (see the following references: LaBorde, Samuels and Stivers 2016, Bihn et al. 2014). Once packed and ready for storage or transport, care should be taken to avoid contamination of product with other contaminants such as foreign matter and unintentional water such as condensate from refrigeration systems. ●

USDA to Collect Vegetable Data in the Northeastern United States

USDA National Agricultural Statistics Service, Northeastern Regional Field Office, Harrisburg, PA

In the coming months, the U.S. Department of Agriculture's (USDA) National Agricultural Statistics Service (NASS) will conduct the Vegetable Grower Inquiry Survey. The agency plans to collect data from vegetable growers across the United States, including over three thousand in the Northeastern Region.

NASS conducts this vegetable survey once per year to obtain the final acreage, production, and value of sales for fresh and processed vegetables. "When growers respond to these surveys, they provide essential information that helps us determine the production and supply of these commodities in the United States for the 2022 crop year. Everyone who relies on agriculture for their livelihoods is interested in the results," explained King Whetstone, director of NASS Northeastern Regional Field Office.

NASS gathers the data for these surveys online and by phone interviews. Growers provide information on crop acreage, production, and value of sales. NASS will compile and analyze the survey data and publish the results in a series of USDA reports, including the Annual Vegetable Release, scheduled for February 16, 2023.

"NASS safeguards the privacy of all responses and publishes only state- and national-level data, ensuring that no individual operation or producer can be identified," stated Whetstone. "We recognize this is a hectic time for farmers and ranchers, but the information they provide helps U.S. agriculture remain viable and capable. I urge them to respond to these surveys and thank them for their cooperation," said Whetstone.

All reports are available on the NASS website: https://www.nass.usda.gov/Publications/. For more information on NASS surveys and reports, call the Northeastern Regional Field Office at (800) 498-1518.

Help Stop the Spread of Spotted Lanternfly in New York

Jennifer Phillips Russo, Viticulture Extenion Specialist, Lake Erie Regional Grape Program

Spotted Lanternfly (SLF), *Lycorma delicatula*, is an invasive plant hopper from Asia and is an agricultural pest. In the United States, it was first found in Pennsylvania in 2014. Spotted Lanternfly has been found in New York State on Staten Island, all New York City boroughs, Long Island, Port Jervis, Sloatsburg, Orangeburg, Ithaca, Binghamton, Middletown, Newburgh, Highland, and the Buffalo area. SLF **threatens the agriculture and forestry industries**, and is also a nuisance pest. The nymphs and adults feed on over 70 different plants, but is **especially detrimental to grapes, a black walnut, hops, maple trees, and apples**.

Cornell Cooperative Extension has developed a video, available in English and Spanish, to raise awareness about this pest and teach all New Yorkers what to do if a Spotted Lanternfly is found. The videos are posted on Lake Erie Regional Grape Program's YouTube channel: https://www.youtube.com/user/LERGPCLEREL

Upcoming Events

New York Labor Roadshow VI

November 9, 2022 (Wednesday) | 8:30 am - 4:30 pm
Genesee Community College-Batavia Campus, One College Rd, Batavia, NY 14020, Room T119 Lecture Hall, Conable Technology Building

November 10, 2022 (Thursday) | 8:30 am - 4:30 pm
Cayuga-Onondaga BOCES, 1879 West Genesee Street Rd, Auburn, NY 13021, Conference Room 1, 2, 3

- **Online Option on November 10, 2022 only,** *the event will be broadcast via Zoom for remote audiences and recorded for paid registrants to view later.*

New York's Ag Workforce Development Council (AWDC) is organizing Labor Roadshow VI. Labor continues to be the primary challenge for many farm businesses and this event tackles those challenges head on with these topics:

- Attracting and retaining your farm workforce
- Management strategies in a union eligible work environment
- TN Visas: Introduction to the program and best practices for using
- The H-2A Program: Accessing guest workers for all types of farms
- Producer's real world experiences with H-2A
- Farm Safety: Real world tips for building a strong safety culture
- Farm-provided employee housing management and development

Registration is required, and payment of $65 per person is collected on site. Agenda, registration, and more details are available at agworkforce.cals.cornell.edu/labor-roadshow-v

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Upcoming Events

Farm Food Safety Meeting

December 5, 2022 (Monday) | 9:00 am - 4:00 pm
CCE Wayne County, 1581 Rt 88N, Newark, NY

See page 6 for the full details of this event.

GAPs Training – Understanding Food Safety on the Farm

December 9, 2022 (Friday) | 9:00 am - 4:00 pm
CCE Yates County, Yates Co. Office Bldg, 417 Liberty St, Penn Yan, NY 14527

Join the CCE Cornell Vegetable Program and CCE Yates County for a workshop that will provide you with the *why's* behind food safety recommendations along with practical, farm-based ideas to improve food safety on your farm. We'll cover manure management, packing house cleaning and sanitizing, water testing, and other topics which have big impacts on produce quality and safety.

Going through a GAPs audit? This class will provide you with a food safety training course!

Cost: $5 (a pizza lunch is included). Registration: Contact CCE Yates at 315-536-5123.

For more information about the topics of the meeting, contact Robert Hadad at rgh26@cornell.edu or 585-739-4065.

2023 Empire State Producers EXPO

February 6-7, 2023
Becker Forum: February 8, 2023
Oncenter Syracuse, 411 Montgomery St, Syracuse, NY 13202

This annual show is hosted by the New York State Vegetable Growers Association in order to provide a comprehensive trade show and educational conference for New York producers, as well as neighboring states and Eastern Canada. This years conference has been planned exclusively by the New York State Vegetable Growers Association. Each session has been planned to encapsulate what Farmers want to learn and hear about. The show is going back to its roots, sessions that Farmers are interested in and lots of networking opportunities. Panel discussions feature some of the top industry experts and growers in New York. Between educational sessions, attendees can visit the trade show featuring commercial vendors and non-profit exhibitors. Session topics include commodity specific programs in, sweet corn, onions, cabbage, soil health, high tunnel, disease management, tomatoes, snap beans, and cucurbits. DEC pesticide recertification credits will be offered during the appropriate educational sessions. Registration will open January 2023.

Cornell Cooperative Extension
Cornell Vegetable Program

480 North Main Street
Canandaigua, NY 14424

VEGEdge
YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

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VegEdge is the highly regarded newsletter produced by the Cornell Vegetable Program. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas, and research results from Cornell University and Cornell Cooperative Extension. VegEdge is produced every few weeks, with frequency increasing leading up to and during the growing season.

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Cornell Cooperative Extension
Cornell Vegetable Program

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