



New Weed Problems with Harvest Equipment

Avoid Creating

PAGE 1



PAGE 4

Recognizing Fruit Rots of Vine Crops

PAGE 5





Carrot Root Decay at Harvest Time

PAGE 7

Avoid Creating New Weed Problems with Harvest Equipment

Lynn Sosnoskie, Assistant Professor in Weed Ecology and Management for Specialty Crops, School of Integrative Plant Sciences – Horticulture Division, Cornell Agri-Tech; edited by Christy Hoepting, CCE Cornell Vegetable Program

HARVEST EQUIPMENT CAN INTRODUCE ECONOMICALLY DAMAGING WEED SPECIES TO NEW AREA

Weeds in crops can reduce both yield quantity and quality. Seed produced by weeds that go unmanaged in the current cropping season can have impacts on production operations in following years. While many seed are likely to remain in the field in which they were produced, some weed seeds may be transported between sites on harvest equipment (Fig. 1). In other regions of the US, the movement of herbicide resistant weeds on combines has stimulated extension efforts about equipment clean-out to minimize the spread of economically damaging species, like Palmer amaranth (Amaranthus palmeri). Here in NY, seeds recovered from a combine recently purchased from an out-of-state soybean farmer were identified as waterhemp (Amaranthus tuberculatus); Cornell screening efforts indicates that the resulting plants were resistant to glyphosate (WSSA Group 9) and the ALS-inhibiting (WSSA Group 2) herbicides with possible resistance to at least two other chemical classes. Careful examination of this harvester may have prevented the establishment of a difficult-to-control weed with a novel resistance profile.



Figure 1. These weed seed seedlings, predominantly common lambsquarters, are germinating from soil that was collected off of disc harrows at the Cornell AgriTech farm in Geneva. Harvest equipment can also be an important weed spreader. Photo by L. Sosnoskie, Cornell

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: CCE Cornell Vegetable Program 480 North Main Street, Canandaigua, NY 14224 Email: cce-cvp@cornell.edu Web address: cvp.cce.cornell.edu

Contributing Writers

Elizabeth Buck Robert Hadad Christy Hoepting Margie Lund Julie Kikkert Judson Reid

Publishing Specialist/Distribution/Sponsors Angela Ochterski

VegEdge is published 25 times per year, parallel to the production schedule of Western New York growers. Enrollees in the Cornell Vegetable Program receive a complimentary electronic subscription to the newsletter. Print copies are available for an additional fee. You must be enrolled in the Cornell Vegetable Program to subscribe to the newsletter. For information about enrolling in our program, visit cvp. cce.cornell.edu. Cornell Cooperative Extension staff, Cornell faculty, and other states' Extension personnel may request to receive a complimentary electronic subscription to VegEdge by emailing Angela Ochterski at aep63@cornell.edu. Total readership varies but averages 700 readers.

Information provided is general and educational in nature. Employees and staff of the Cornell Vegetable Program, Cornell Cooperative Extension, and Cornell University do not endorse or recommend any specific product or service.

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are possible. Some materials may no longer be available and some uses may no longer be legal. All pesticides distributed, sold or applied in NYS must be registered with the NYS Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide usage in NYS should be directed to the appropriate Cornell Cooperative Extension (CCE) specialist or your regional DEC office.

CCE and its employees assume no liability for the effectiveness or results of any chemicals for pesticide usage. No endorsement of products or companies is made or implied. READ THE LABEL BEFORE APPLYING ANY PESTICIDE.

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.



Contents

| Avoid Creating New Weed Problems with Harvest Equipment | 1 |
|---|----|
| Emerging Crop Specialist Available to NY Farmers | 2 |
| Black Rot in Winter Squash | 3 |
| Recognizing Fruit Rots of Vine Crops | 4 |
| Plan Your Winter Spinach Soil Fertility Strategies | 5 |
| Carrot Root Decay at Harvest Time | 7 |
| Planning for Irrigation Expansion Starts Now | 8 |
| Farmer Grant Program Now Open! | 9 |
| Future Programs and a Strong NYS Agricultural Industry | 9 |
| Upcoming Events | 10 |
| Income Tax Planning for Farms that File a Schedule F | 10 |
| Fall Strawberry Workshop | 10 |
| Annie's Project: Risk Management for Farm Women | 10 |
| The Current Cucurbit Podcast | 11 |
| Contact Us | 12 |
| | |

The next issue of VegEdge newsletter will be produced on November 1, 2021.

Emerging Crop Specialist Available to NY Farmers

Judson Reid, Cornell Cooperative Extension

Daniela Vergara has joined the CCE Harvest NY team as an Emerging Crops Specialist effective October 1, 2021. Daniela has extensive experience in teaching and research, mainly in hemp genetics and breeding programs, and numerous relationships as a consultant with bioscience and agribusiness firms in the western United States. Daniela is located on the Cornell AgriTech campus in Geneva to collaborate on work being done in hemp, hops and other crops.

Farmers interested in growing new crops such as hemp or hops are encouraged to reach out to Daniela by email <u>dv255@cornell.edu</u> or cell phone 812-219-0172. Welcome Daniela! ●



Daniela Vergara, the new Emerging Crops Specialist for CCE Harvest NY

PRECAUTIONS TO AVOID WEED SPREAD VIA HARVEST EQUIPMENT

- Newly purchased, previously owned harvesters should be inspected to prevent new weed species or weedy biotypes from being introduced.
- Avoid harvesting overly dense patches of weeds, especially if you suspect herbicide resistance.
- Arrange harvest operations to ensure that the weediest fields are harvested last, when possible.
- While it may not be feasible to thoroughly clean equipment between every field, removing as much plant debris as possible before moving harvesters between sites can be a valuable strategy for controlling weed spread.
- Remove clumped soil from implements and tractors to avoid spreading weed seeds (as well as devastating soil-borne pathogens).
- Be strategic with site selection when conducting end-of-season equipment clean-outs; choose a location where dislodged or removed seed cannot be easily blown, picked up, washed away or otherwise transported back to

Black Rot in Winter Squash

Robert Hadad, Cornell Cooperative Extension, Cornell Vegetable Program This season has been tough for growing vine crops. Lots of rain, wet soils, and prolonged leaf wetness open things up for disease. Winter squash coming out of the field are showing signs of disease. One villain of winter squash is Stagonosporopsis. It is the causal agent of gummy stem blight which affects vine crop leaves and stems. Leaf spots initially are round or triangular when beginning at the leaf margin. They can rapidly enlarge becoming irregular. Color is tan to brown (Fig. 1).

Black rot is the name used when the disease becomes a fruit rotting pathogen, Stagonosporopsis can be particularly damaging to winter squash (butternut, acorn, buttercup, hubbard, etc.) and pumpkins. Other cucurbits such as watermelon, cucumber, and grounds are also affected. The disease occurs worldwide in tropical, subtropical and temperate climates. It has also been reported in greenhouse production.



Figure 1. Squash leaf highlighting the damaged leaf margins with tan to brown lesions. *Photo by T. Zitter, Cornell*



Figure 2. Butternut squash with black rot symptoms: mottling with a large area of skin tissue breaking down. *Photo by T. Zitter, Cornell*



Figure 3. Classic concentric circles indicative of black rot. *Photo by T. Zitter, Cornell*

fields. The removal of debris may have additional economic benefits if it prevents unnecessary wear-andtear and helps to preserve equipment functionality over time.

FOR MORE INFORMATION

See the following links:

End-of-season-combine-clean-out-factsheet.pdf (ndsu.edu)

<u>Weed Seed Movement via Combines.pdf</u> (wiscweeds.info)

Weed Seed Management at Crop Harvest. pdf (wiscweeds.info)

ease spread is mild, between 68F - 78F. The key factor is moisture. Wet conditions are necessary for the disease to take off. Spores can enter fruit through flower scares or into wounds. Within 3-5 days infections can develop. If the weather dries, the infection will slow or stop but will restart when moist conditions begin again.

MANAGEMENT

Black rot control should begin with effective control of gummy stem blight in the field. This will reduce the number of fruits lost during the season and provide better quality fruit for storage and transit. The use of treated seed should be a standard practice. Rotations out of vine crops is essential. The longer the rotation the better so plan on four years at least.

If your production has been affected in the past, it probably will again. Check for leaf symptoms early on. Use protectant fungicides (check the Cornell Vegetable guidelines for a list of NY approved products). Several applications will be needed to manage the disease. Avoiding injury during weeding and with harvest can reduce potential infection. It is also very important to "cure" the squash after harvest. Curing at 68 - 77F or higher for 1 - 2 weeks hardens the rinds. Hardened rinds provide some protection from infection. The cured squash can be stored at temperatures of 52F - 60F. Uncured squash will need to be stored between 44F - 50F to reduce disease activity. Relative humidity should be lower than other produce, between 55F -75%.

SYMPTOMS

On winter squash symptoms are brown to pinkish and water-soaked at first (Fig. 2), then become black, except affected tissue on butternut squash develops white to orange-brown concentric rings (Fig. 3). If the fruit are damaged prior to or during storage, a brown to pinkish water-soaked area develops, followed by black-ened areas with conspicuous fruiting bodies. Making matters worse is that often, infected fruit show no visible symptoms coming out of the field but may develop them in storage, especially long-term storage. [See Recognizing Fruit Rots of Vine Crops, page 4, for more photos. ed. A. Ochterski, CVP]

CONDITIONS FOR DISEASE SPREAD

What complicates this disease is that it can be seed born. Be sure to purchase seeds from a reputable source. Once the disease enters the field, it can survive from season to season on infected plant debris. The temperature range for dis-

Recognizing Fruit Rots of Vine Crops

Elizabeth Buck, Cornell Cooperative Extension, Cornell Vegetable Program
PHYTOPHTHORA
ANTHE

Phytophthora (fi-tof-thor-a) is a serious, long-persistant, destructive disease that can easily be spread from farm to farm on infected fruit. This disease can last a decade in the soil and attacks (blights/ melts) vine crops, solanaceous crops, and legumes. The disease is caused by an oomycete, which is a different kind of organism from a fungus. Most fungicides don't control oomycetes. Growers with phytophthora have to rely on specialized control chemistries and often must make substantial changes to their production plans and planting systems. You do NOT want this showing up on your farm, especially not because of some rotting fall vine crops brought in from elsewhere.

Phytophthora loves cucurbit fruit. A single infected fruit can produce hundreds of thousands of spores. **Initial water-soaked spots enlarge and the lesions begin to grow a fine, powder sugar like mold that generally has a white or grayish color**. Once symptoms develop, fruit rot down fairly quickly. Secondary infections of opportunistic mold and bacteria can occur. Clean looking fruit from infected fields can develop symptoms after they are picked, packed and shipped.

Any farms with suspected phytophthora should contact CCE for positive identification and help drafting a management plan. Growers with cases in the field should not ship fruit with phytophthora. The high integrity move is to notify your customers that there is a risk of phytophthora developing on shipped fruit and advise your buyers to dispose of rotting fruit in the trash only.

If you believe you have received fruit with phytophthora, **DO NOT under any circumstances put that fruit into your field or cull on farm**. Phytophthora infected fruit should be bagged and put in the trash.



Top: Pumpkin fruit with 3 water-soaked and slightly collapsed phytophthora lesions in the center of the fruit. Lower left: three sporulating phytophthora lesions on a pumpkin. Lower right: Kabocha squash sowing advanced sporulation on the top and right side. Note the broad water-soaked band extending out from the sporulating area on the top. *Photos: Pumpkins by M. McGrath, Cornell; squash by J. Ivison*

ANTHRACNOSE

Anthracnose is a fungal disease that strikes foliage and fruit. I'm seeing a lot of anthracnose on fruit this fall. Anthracnose will progress post-harvest and cause losses in storage or after shipping. Anthracnose lesions can turn black and may eventually produce salmon-colored spores



Early/mid stage anthracnose symptoms. Symptoms vary slightly across crops. Top: Delicata squash, shows an age range of symptoms, with small lesions and older, sunken lesions that are pale in the center and have a reddish edge. Lower left: On pumpkin anthracnose causes sunken, round lesions that develop black centers fairly soon. Lower right: a close up of butternut squash showing the crusty, cracked, red-edged older lesion and two slightly blistered young lesions above and to the upper right. *Photos: Tom Zitter, Cornell*

BACTERIAL LEAF SPOT

Bacterial leaf spot was widespread this summer on pumpkin and winter squash foliage following that very wet July. Now that harvest has arrived, fruit from those infected plantings are showing bacterial rot symptoms. Infected fruit have blisters with white centers that may hollow with age. A halo of water-soaked tissue forms around the blisters. While these spots may seem to cause little structural impact to the fruit, marketing them is a risky proposition. Secondary rots often enter the rind through these bacterial lesions and lead to a (sometimes reeking) fruit collapse.



Symptoms of bacterial leaf spot on a pumpkin (left) and an immature butternut squash (right). *Photos: M. McGrath, Cornell continued on page 4*

BLACK ROT

Black rot is the fruit-attacking form of Gummy Stem Blight; the same fungal disease has two names. Black rot will progress through storage or on a stand, so it pays to sort out fruit with early symptoms. With enough time, this fungal disease will eventually cause dark to black lesions followed by fruit decay. Decay often has secondary rots associated.

Any planting with gummy stem blight observed on foliage or vines is at high risk for black rot development on fruit, and should be scouted for signs of lesions. Early symptoms are less obvious and lack the distinctive black color. Lesions begin as water-soaked spots that develop into pits. Pitted lesions may sometimes have gummy, reddish exudate (sap) or may contain black specks. Lesions continue to grow and sink and will eventually darken. Butternut often has a unique presentation of concentric brown rings on the rind, particularly on the soil side of the fruit.

FUSARIUM

Fusarium is a fungal dry rot that progress post-harvest. Fusarium is common in soils and so symptoms develop mostly on the underside of the fruit.



Early to mid-stage symptom development of black rot on pumpkin (left), mid-stage classic sunken lesions on ripe butternut (center), and the concentric brown ring presentation on butternut (right). The lower photo shows the blackening and associated water-soaking on a more advanced lesion on pumpkin fruit. *Photos: A.F. Sherf, Tom Zitter, and Meg McGrath, Cornell*



A progression of fusarium symptoms on pumpkin. The first symptom is light tan, circular spots or small, raised blisters that will develop wide, water-soaked margins with time (left). Those areas then sink (center) as the fungus progresses through the rind. Under favorable conditions the fruit produces pinkish and/or thick white mold (right). Photos: Meg McGrath and Tom Zitter, Cornell

Plan Your Winter Spinach Soil Fertility Strategies

Elisabeth Hodgdon, Cornell Cooperative Extension, Eastern NY Commercial Horticulture Program New Research Results and Video Resources Available to Help Plan Your Winter Spinach Soil Fertility Strategies

With October's arrival this week, many high tunnels around the region are undergoing their seasonal transformation from tomatoes to winter spinach. Spinach transplanted in October allows growers to offer fresh greens in the late fall and winter, an enticing product alongside storage crops. For all tunnel growers, we recommend sampling the soil at least once per year. In the fall after your tomato crop is a great time to do this. The results should help inform your fall fertilizer application for greens and your fertility plan for next spring's crop.

Although nitrogen fertilizer application rate recommendations are fairly well understood for main season field-grown vegetables, nitrogen requirements for winter greens in the Northeast in high tunnels are not as well understood. We hear of growers applying no additional nitrogen before planting winter greens, while others apply hundreds of pounds of nitrogen per acre for their winter crop (upwards to 600 lbs N/ac). Nitrogen availability in cold soil, particularly for slow-release organic N sources, presents a challenge for winter production. As part of a NY Specialty Crop Block Grant, I've been working with Jud Reid and Caitlin Tucker of the Cornell Vegetable Program to investigate optimal nitrogen fertility for overwintered high tunnel spinach.

We conducted a replicated experiment at the Cornell Willsboro Farm in 2019-2020 and 2020-2021 testing four different rates of organic nitrogen fertilizers for winter high tunnel spinach: Pro Booster or feather meal nitrogen fertilizers at 0, 65, 130, or 200 lbs N/ac. Pro Booster (North Country Organics; 10-0-0) consists of a mix of animal and plant meals, with a small amount of Chilean nitrate. Feather meal (North Country Organics; 13-0-0) consists of processed feathers from the poultry industry. We fertilized the plots within our research tunnel and transplanted 'Gazelle' spinach (6"x5" spacing) around October 1st each year (Fig. 1). In the past, we've found that seeding spinach no later than September 1st resulted in the highest spinach yields during the winter

growing season. We harvested the spinach from November until April and compared our yields across treatments.

In both years, we found that plots fertilized with Pro Booster at 130 and 200 lbs N/ac resulted in the highest spinach yields in the fall (Fig. 2). During our first harvest in November, we found that plots fertilized with Pro Booster at 200 lbs/ac yielded twice as much as our control (0 lbs N/ac) treatment (40 lbs spinach/32"x90' bed versus 21 lbs/bed. We recorded a <u>video</u> <u>of our experiment</u>, where Jud and I discuss our experimental setup, results, and conclusions in more depth.

We also tested the nitrogen fertilizer treatments at Pleasant Valley Farm in Argyle, where the Arnold family graciously hosted demonstration plots of each fertility rate using peanut meal last winter. In <u>this video</u>, the Arnolds discuss their approaches to winter greens production and soil fertility, and their impressions of our nitrogen rate treatments. At Pleasant Valley Farm, as with the Willsboro Farm experiment, we found that 130 and 200 lbs N/ac were the highest yielding treatments (Fig. 3). For the Arnolds, 200 lbs N/ac is their tried and true fertilizer rate for their greens.

In conclusion, our results from both farms lend evidence to support a recommendation of 200 lbs N/ac fertilization for winter spinach. It is likely that our higher yields in November from Pro Booster were associated with the Chilean nitrate included in this fertilizer blend. Pro Booster contains more readily-available nitrogen than feather meal, which likely increased growth early in the season. Other factors on individual farms will influence how much nitrogen application is required, for example, number of anticipated harvests, organic matter levels in the soil, and leftover nitrogen credits from the previous crop. Which nitrogen fertility rate do you use for your winter greens? Have you changed your fertility program after hearing our results, or do you plan to increase or decrease your rates in the future? If so, let us know! For questions and comments about our experiment, please contact Elisabeth Hodgdon, ENYCHP vegetable specialist, at ehs28@cornell.edu or 518-650-5323.

This experiment was funded by the NYS Specialty Crop Block Program and a Toward Sustainability Fund grant. We thank Mike Davis of the Willsboro Research Farm, and Andy Galimberti of ENYCHP for their assistance with our field work and data analysis.



Figure 1. Research technician Andy Galimberti transplanting spinach in October 2020 at the Cornell Willsboro Research Farm in Willsboro, NY. Each plot was fertilized with either Pro Booster or feather meal at 0, 65, 130, or 200 lbs N/ac rates, for a total of 7 treatments grown in small plots. *Photo by Elisabeth Hodgdon, Cornell Cooperative Extension*







Figure 3. Winter spinach ('Sue' and 'Matador') harvested from Pleasant Valley Farm in February 2021 at 0, 65, 130, and 200 lbs N/ac using peanut meal. Spinach from the 0 and 65 lb N/ac rates produced small, chlorotic leaves, whereas the higher N treatments produced larger, darker green marketable leaves. *Photo by Elisabeth Hodgdon, Cornell Cooperative Extension*

Carrot Root Decay at Harvest Time

Julie Kikkert, Cornell Cooperative Extension, Cornell Vegetable Program

It's been a good growing season for carrots in western, NY once we passed initial establishment problems from dry planting conditions in many fields. Carrot tops have been vigorous for the most part and growers have done a good job with fungicide applications. However, now that carrot harvest is underway there can be some previously undetected root problems. Several pathogens can cause decayed carrot roots. In addition, insects can tunnel into roots causing blemishes and wounds for bacteria and fungi to enter. Let's look at the most common root diseases you might see at harvest time in NY.

CAVITY SPOT

Symptoms of cavity spot (*Pythium violae; Pythium spp.*) are irregularly shaped and depressed lesions that run across the tap roots. Several species of *Phythium* may cause cavity spot, with *Pythium violae* being one of the most important. Roots may become infected at an early stage but become visible only after a considerable time. Susceptibility increases as the carrot matures and older carrots can become infected quickly. The disease is thought to be associated with high soil moisture either early or late in the growing season, as well as with high nitrogen levels.



Cavity spot. Photo by Lindsey du Toit, Washington State University

RHIZOCTONIA CROWN ROT, FOLIAR BLIGHT, AND CRATER ROT

Crater rot (Rhizoctonia solani) can be common in New York when conditions are warm and moist, especially when carrots are grown in short rotations with other susceptible hosts. Infections begin on the tap root, often where lateral roots emerge. The lesions enlarge and develop into brown and black sunken cankers. The lesions may penetrate several millimeters into the taproot, which distinguishes them from Phythium spp. which are much shallower. Foliar blight and crown rot are the same disease expressed on the plant in different locations. Crown rot can result from infections on either the crown or on the main root. Early symptoms are horizontal dark brown lesions, which can later develop into black sunken cankers that may penetrate several millimeters into the taproot and petioles. Tops may die in patches in the field. Infections can occur early in the season but may not be detected until much later. The fungus easily spreads from plant to plant and thus, high plant densities and narrow row spacing will increase the severity of the disease, especially under moist conditions. Excessive hilling under moist conditions will also increase disease. It is advised to rotate

fields out of susceptible vegetable crops.



Rhizoctonia rot on carrot roots. *Photo by Robert L. Wick, University of Massachusetts*

RHEXOCERCOSPORIDIUM BLACK SPOT DISEASE

Rhexocercosporidium carotae was first reported in the United States in 2015 in carrots grown in Essex County, NY. It appears to be fairly widespread in New York. The fungus can affect both the leaves and the roots. In roots, lesions first appear as small, dark spots on the surface. Later, circular dark brown to black lesions develop and may coalesce to cover large areas or the entire root. The pathogen is believed to only affect carrots.



Rhexocercosporidium black spot. Photo by Sarah Pethybridge, Cornell

COTTONY ROT/WHITE MOLD

This disease more commonly shows up in storage, however, it can be found in crops in the field. Cottony rot (*Sclerotinia sclerotiorum*) is characterized by a cotton-like, white mycelium on the lower plant parts and roots. The mycelium mounds up and turns black into the characteristic overwintering structures called sclerotia. *Sclerotinia sclerotiorum* has a wide host range including snap beans, lima beans, dry beans soybeans, cabbage, lettuce and sunflower and rotation to grain crops is recommended to reduce the soil population.



Cottony rot. Photo by William M. Brown, Jr., from Bugwood.org Image 5356789

SOFT/WET ROT

Bacterial soft/wet rots (*Erwinia carotovora and other species*) most commonly occur in storage but may be found in the field under very wet fall conditions. *Erwinia carotovora* is most commonly associated with this condition, but other species of *Erwinia* or even *Pseudomonas* spp. can infect carrot. *Erwinia* is widespread in soil and is considered a secondary pathogen because it enters the root after there has been previous damage from root cracking, insects, or fungal infections. The tissues disintegrate quickly and turn into a soft, slimy mass.



Watery and slimy carrot suspected to have bacterial soft rot that invaded the root in an open wound. *Photo by J. Kikkert, CCE Cornell Vegetable Program*

Planning for Irrigation Expansion Starts Now

Lyndon Kelley, Michigan State University Extension; edited by J. Kikkert, CCE Cornell Vegetable Program

Early September has traditionally been the time of year that irrigation equipment is at its lowest prices and the most incentives are available. High commodity prices and short stints of drought have many producers thinking about expanding irrigation.

Industrial shortages of steel and plastics have irrigation equipment in short supply. Many irrigation suppliers are struggling to find underground plastic pipe to put in this fall. With the slow restart of manufacturing, things like wire and electronics are not on the shelves for many projects. All of these challenges add up to the need for a greater amount of planning and time to have an irrigation system ready to run next spring.

The demand for irrigation wells and water supplies have many well drillers booking into next year for installations. Michigan's large volume water use registration process and the site-specific review system have the potential to slow down many projects. Starting early and having a detailed project plan can help avoid having one loose end that keeps you from starting up irrigation in the spring. Irrigation offers a tremendous advantage to help germinate or water up a crop in a dry spell in the spring. New irrigation systems should be planned with a completion date prior to spring field work for best success and the least stress to both the crop and producers.

Recent discussions with a half dozen irrigation equipment suppliers in Indiana and Michigan found that equipment prices have increased 23-28% from fall 2019, depending on size and availability of the components needed. These higher costs for new irrigation systems make it even more important to have a plan that includes a solid economic analysis of the ability for the system to pay for itself. In most cases, this will include changes to crop rotation and potentially the addition of high value specialty crops or vegetables in the rotation, all of which takes coordination and time.

The only way to increase time for a project to come together is to start early. Michigan State University and Purdue University Extension have a <u>checklist for irrigation planning</u> that many producers find helpful. This resource and other irrigation related

information, are available on the <u>MSU</u> Extension Irrigation website.

This article was published on September 20, 2021 by <u>Michigan State University Extension</u>. For more information, visit <u>https://extension.msu.edu</u>.



Farmer Grant Program Now Open!

<u>Northeast SARE</u> is inviting farmers and growers to submit proposals to the <u>Farmer Grant Program</u>, https://northeast.sare.org/ grants/get-a-grant/farmer-grant-program/. The online submission system began accepting proposals on October 1.

Proposals are due online by 5:00pm ET on Tuesday, November 16 for projects starting next spring. Funded projects, which are now capped at \$30,000, will be announced in late February 2022.

Farmer Grants are intended for farmers and growers who want to explore new concepts in sustainable agriculture through experiments, surveys, prototypes, on-farm demonstrations or other research and education techniques. These grants are not intended to provide start-up funds or be used to finance farm equipment or expand farm operations. Successful proposals explore new paths to sustainable agriculture or plan projects that are useful to other farmers.

The grant program is open to farm business owners and farm employees from all types and scales of farms (including urban agriculture and aquaculture) in the Northeast region. Indigenous growers are eligible and encouraged to apply as are farmers working on farms affiliated with an institution or a nonprofit organization so long as the farm meets <u>Northeast SARE's definition</u> of a farm. Northeast SARE encourages projects submitted from, or in collaboration with, women, the LGBTQ+ community and Black, Indigenous and other People of Color (BIPOC).

Future Programs and a Strong NYS Agricultural Industry

Nicole Waters, Cornell Small Farms Program, Mario Miranda Sazo, CCE Lake Ontario Fruit Program, and Alejandro Calixto, NYS IPM Program

As the Winter season approaches, we would like to share information on existing and upcoming programs currently available to fruit producers. We welcome the opportunity for collaboration and adaptation to NYS's vegetable producers and service providers.

The Cornell Small Farms Program is currently recruiting for the <u>Winter 2022 Futuro Financiero course</u>. The Futuro Financiero course (piloted as the Master Class program, 2018-2020) is a 5-week **professional development course for bilingual and Spanish-speaking farm owners, managers, and employees** looking to grow their management skill sets within an English Language Learning (ELL) environment. Throughout the piloting period, this in-depth course has proven to increase on-farm communication and employee engagement within the complex multi-cultural, multilingual agricultural workplace.

The Winter 2022 offering of Futuro Financiero will feature additional course content aimed at expanding basic financial literacy, while building confidence in both team leadership and English-language communication. Eligible students include bilingual or Spanish-speakers currently employed in agriculture (no commodity restrictions). This course offers an opportunity for farm business owners and employers to enhance their businesses, while demonstrating appreciation and value for their workforce through thoughtfully tailored professional development opportunities.

The Futuro Financiero Course and the Cornell Small Farms Program (in collaboration with Cornell Cooperative Extension - Lake Ontario Fruit Team and NYS Integrated Pest Management) aims to further efforts of recognition and celebration of an important group of NYS farmers, while simultaneously creating language-appropriate educational materials and defined pathways to successful farming careers.

FOR MORE INFORMATION OR ENROLLMENT Email Nicole Waters or email Mario Miranda Sazo (en espanol), or simply complete this information request form. Together we rise. Together we inspire, educate, and support successful farmers. Together we will improve and innovate NYS Agriculture.



Tour group at Rosario Brother's Marshall Road Farm after a cultural practices demo by Mario Miranda Sazo, along with a discussion of the importance of obtaining ag managerial skill sets with 5 Master Class Graduates (Ruben Gomar '18, Jose Vallejo '18, Silvia Rosario '19, Sergio Rosario '19, and Flor Iniquez '19). *Photo by Alejando Calixto, NYS IPM Program*

Upcoming Events

Cornell Vegetable Program events are listed at CVP.CCE.CORNELL.EDU

Income Tax Planning for Farms that File a Schedule F

Wednesdays, October 13, October 20, and October 27, 2021 | 7:00pm - 8:30pm

Online via Zoom – For those without internet access, there will be a call-in option available with the opportunity to receive paper copies of the presentation via mail

For farms that are established and already filing a Schedule F. Topics include tax planning and goals, handling farm profits/ losses, and strategies to improve your tax position while also working positively with your accountant/tax preparer.

Session 1: Overview of tax planning, the management of tax liability, and assessing your record keeping system.

Session 2: Delve into everything Schedule F - depreciation and classifying revenues and expenses.

Session 3: A professional tax-preparer will introduce tax planning strategies and the timeline for implementation, plus Q&A and discussion.

COST and REGISTRATION: \$25 for the 3-course series. Scholarships available for those experiencing financial hardship to attend for free (no proof of hardship needed). The courses will be offered virtually via live and interactive zoom webinar. For those without internet access, there will be a call-in option available with the opportunity to receive paper copies of the presentation via mail. Each presentation will be recorded and sent to those who are registered (even if you can't attend the live event). **Pre-registration is required by October 7**. To register and for more details, go to <u>tinyurl.com/ccetaxschool</u> or call 716-640-0522.

Fall Strawberry Workshop

October 20, 2021 (Wednesday) | 5:30pm - 7:30pm Wagoner Bees and Produce, 11137 Wayne Rd, Fillmore, NY 14735

Deb Wagoner of Wagoner Bees and Produce will lead a discussion of weed control techniques including types of plastic mulch and how they are used to prevent weed infestation in strawberry systems. She will share her experience with irrigation scheduling and a labeling system used for cultivar tracking. She'll also share information about her strawberry harvester with a description of item cost and functionality.

Attendees will also hear from Integrated Weed Management Specialist, Bryan Brown, and WNY Berry Specialist, Anya Osatuke, as they review late-fall pests, fertility management, and seasonal factors determining when to apply a winter mulch to a strawberry planting. The full meeting agenda is available at <u>https://harvestny.cce.cornell.edu/event.php?id=82</u> *This event is hosted by CCE Harvest NY and CCE Allegany County.*

COST, REGISTRATION, and QUESTIONS: This workshop is FREE to attend! Pre-registration is requested; email Anya Osatuke or call/text 607-752-2793 with your name, phone number (if available), and number of attendees.

DEC CREDITS: 1.0 DEC credit in categories 10, 1a, 21, 22, and 23 will be offered. Attendees seeking DEC credit will be required to show their DEC Certified Pesticide Applicator ID and/or registration number. Only attendees who stay for the entire course will be awarded a certificate.

Annie's Project: Risk Management for Farm Women

Mondays and Thursdays, November 1 - December 16, 2021 (off the week of Nov. 22) | 6:30pm - 8:30pm Online via Zoom

Are you a woman engaged in farming in NYS? Would you like to learn and network with other farm women, and learn how to strengthen your farming operation? Join Cornell Cooperative Extensions of Allegany, Broome, Oneida, Steuben, and Seneca counties, along with the Central NY Dairy, Livestock & Field Crops team, for our first virtual Annie's Project this winter!

Annie's Project is a six-week online experience designed especially for farm women to help them develop their management and decision-making skills for their farms. Annie's Project is designed for farm women who have been in farming, or agri-business, or part of the food system for three to five years, and want to develop their understanding, interpretation, and opportunities in sustainable agriculture. Annie's Project gives farm women the opportunity to learn from female agricultural professionals and network with other women in similar situations.

Annie's Project provides education in production, price or market, financial, institutional and legal, and human and personal risk. At the end of six weeks, participants will possess the following skills sets —

- Understand personality types to communicate better with business partners
- Put family living expenses together with other costs of doing business on the farm
- Identify production risks on-farm and prioritize risk management strategies to minimize losses

continued on page 11

Upcoming Events (continued) Events are listed at CVP.CCE.CORNELL.EDU

continued from page 10

- Interpret balance sheets, income statements, and cash flow projections to make business decisions
- Confidence in review of labor laws, requirements, and their implications
- Develop an inventory of current Human Capitol & make a plan to address any weaknesses and contingency plan if a 'position' becomes open
- Understand farm family labor vs off farm labor. how to offer benefits & when it's time to hire outside help
- Communicate expectations of family vs hired labor
- Understand insurance options to cover Human Resource concerns
- Understand how assets are titled and learn about estate planning tools
- Consider and evaluate available marketing opportunities
- Understand tools and resources for stress management & farm equipment needs specific to farm women

COST: \$30 for the series and includes a portfolio, access to an online learning platform and access to all presentations and worksheets, access to financial and legal advice, and support from a variety of community partners. The fee for women veterans engaged in, interested in getting into, agriculture is sponsored by the FarmOps initiative at the Cornell Small Farms Program.

REGISTRATION: Register at <u>https://reg.cce.cornell.edu/remote-anniesproject2021_203</u>. For more information on the curriculum and program logistics, contact Laura Biasillo, <u>lw257@cornell.edu</u>.

The Current Cucurbit Podcast

Mark Gleason and Jose Gonzalez, Iowa State University; edited by Julie Kikkert, CCE Cornell Vegetable Program In this podcast series, we dive into the world of organic IPM for cucurbit crops, focusing on the experience of our interdisciplinary and multistate research project [Cornell is a project partner – J. Kikkert, CCE]. We will expand your knowledge regarding the use of the mesotunnel production system as an IPM tool for cucurbit crops, the capabilities of living mulches for organic weeds control, our efforts in the lab testing biocontrol agents for the main diseases that attack cucurbit crops, and more!

Currently, two episodes are posted. Episode 01 (Sept. 20, 2021) features Dr. Mark Gleason from Iowa State University who sketches out the research project on mesotunnels as an option for organic growers, including a discussion of how mesotunnels can meet the challenge of bacterial wilt and cucurbit yellow vine disease. Episode 02 (Sept. 27, 2021) features Cornell University Plant Pathologist, Sarah Pethybridge who talks about her experience conducting research on mesotunnels in New York. The episode is 26.58 minutes long. Visit the podcast website to view the episodes and find out how you can receive notices when new episodes are posted: https://www.cucurbit.plantpath.iastate.edu/current-cucurbit-podcast

VEGEdge SPONSORS



American Takii, Inc. 831-443-4901 | <u>www.takii.com</u> Creating Tomorrow Today



Vegetable Seeds for Professionals 315-789-4155 <u>www.bejoseeds.com</u>

Carolina Bastern Crocker, LLC

www.cecrocker.com Stafford, NY (585) 345-4141 Pavilion, NY (585) 584-3036

Central Biopesticides Contact Judy Collier (302) 542-4665 Leading the way in Biopesticide options for fruit, vegetables and more



Pest control products for fruit, vegetable and field crops. Alex Deckey, 845-745-9246



Growmark FS - Filling Your Crop Needs Elba Muck 716-474-0500 | Caledonia 585-538-6836 Knowlesville 585-798-3350 | Batavia 716-253-0259



Call 800-544-7938 for sales or visit <u>www.harrisseeds.com</u> A Grower Friendly Company



Medina, NY...(585) 798-6215 Geneva, NY...(315) 789-4450 Genoa, NY...(315) 497-2713

People...Products...Knowledge*...



SEEDWAY Vegetable Seeds 800-952-7333 | www.seedway.com We are focused on quality seed and service!



Blake Myers, 585.303.3252 Randy DeMay, 585.747.3379 www.stokeseeds.com

Cornell Cooperative Extension Cornell Vegetable Program

480 North Main Street Canandaigua, NY 14424





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.

Contact Us VEGETABLE SPECIALISTS

Elizabeth Buck | 585-406-3419 cell | emb273@cornell.edu fresh market vegetables, weed management, soil health

Robert Hadad | 585-739-4065 cell | rgh26@cornell.edu farm food safety, organic, business & marketing, fresh market vegetables

Christy Hoepting | 585-721-6953 cell | cah59@cornell.edu onions, cabbage, broccoli, garlic, pesticide management

Julie Kikkert, Team Leader | 585-313-8160 cell | jrk2@cornell.edu processing crops (table beets, carrots, peas, snap beans, sweet corn)

Margie Lund | 607-377-9109 cell | mel296@cornell.edu potatoes, dry beans, and post-harvest handling and storage

Judson Reid | 585-313-8912 cell | jer11@cornell.edu greenhouses/high tunnels, small farming operations, fresh market vegs

PROGRAM ASSISTANTS

Sarah Caldwell | sv483@cornell.edu Angela Ochterski | aep63@cornell.edu Caitlin Tucker | 573-544-4783, cv275@cornell.edu Emma van der Heide | ev247@cornell.edu

ADMINISTRATION

Peter Landre | ptl2@cornell.edu Steve Reiners | sr43@cornell.edu

Cornell Cooperative Extension Cornell Vegetable Program

For more information about our program, email cce-cvp@cornell.edu or visit CVP.CCE.CORNELL.EDU

f 🖸 🖌

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