

# Cultivating Cumberland

September - 2023

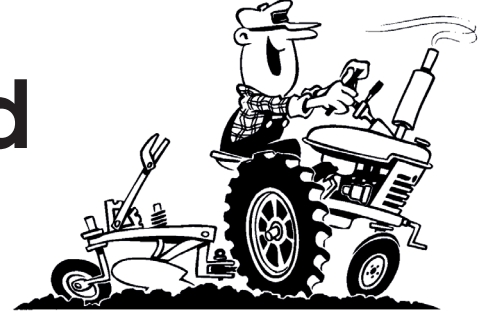
Vol. 28, Issue 9

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## Attachments:

- Pesticide Container Recycling
- Spotted Lanternfly Life Stages
- Oomycete Material Options in Ornamentals
- SBOA Monthly Report



## Rutgers - Horticulture Plant Health Educational Series – Virtual

In preparation for 2024 Nursery IPM training we invite ALL growers (nursery, greenhouse, Christmas tree, vegetable, row crops, landscape professionals) to attend the following educational sessions surrounding overall plant health and pest management principals. **Pesticide credits have been applied for.**

**September 20th: Plant Pathology 101** – Tim Waller, Cumberland County RCE

Time: 6:00 – 7:00pm (5:30-6:00pm sign-in)

Registration link: <https://go.rutgers.edu/tiu37cc3>

**September 27th: Insect Pests 101** – Tim Waller, Cumberland County RCE

Time: 6:00 – 7:00pm (5:30-6:00pm sign-in)

Registration link: <https://go.rutgers.edu/f8q87ung>

**Prior to the sessions upload photo ID and pesticide license here:**

<https://go.rutgers.edu/8as9pxog>

**October, November, December 2x per month** - Dates, Speakers-TBD

Future topics: Weed Management, Nutrient Management, Effective Scouting, Understanding Root Disease, Borer and Scale Insects, Nematodes

Please contact Cumberland RCE for additional information –

**856-451-2800 ext. 1**

## **New Jersey Now Accepting Applications for 2024 Program Offerings**

**HAMILTON SQUARE, N.J., July 18, 2023** – The United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) in New Jersey is now accepting FY2024 applications for the Environmental Quality Incentives Program (EQIP), climate-smart practices through EQIP funded by the Inflation Reduction Act (IRA), the Agricultural Management Assistance (AMA) program and the Regional Conservation Partnership Program (RCPP).

While NRCS accepts applications year-round, New Jersey producers and landowners should apply by October 20, 2023 to be considered for funding in the current cycle.

### **The Environmental Quality Incentives Program (EQIP)**

Through EQIP, NRCS provides agricultural producers with one-on-one help and financial assistance to plan and implement conservation practices to address a variety of issues such as water quality degradation, soil erosion, soil quality degradation and inadequate habitat for fish and wildlife.

Special initiatives include:

- Working Lands for Wildlife (WLFW) - Golden Winged-Warbler
- The National Water Quality Initiative (NWQI) and
- The New Jersey Pine Barrens Joint Chiefs' Landscape Restoration Partnership

1. Forest landowners can verify their land is located within the target area by entering their address into the Pinelands Commission Interactive Map.

### **The Environmental Quality Incentives Program (EQIP) - Inflation Reduction Act (IRA)**

EQIP-IRA funds will provide direct climate mitigation benefits for producers to advance conservation through practices like cover cropping, conservation tillage, wetland restoration, prescribed grazing, nutrient management, tree planting and more.

### **Agricultural Management Assistance (AMA) Program**

AMA is a voluntary conservation program available to beginning and limited resource farmers, small farms, and producers who have had limited participation in other USDA financial assistance programs. Producers eligible for AMA can apply for financial and technical assistance to voluntarily address resource issues such as water management, water quality, and erosion control by incorporating conservation into their farming operations.

### **The Regional Conservation Partnership Program (RCPP)**

Through RCPP, NRCS seeks to co-invest with partners to implement projects that demonstrate innovative solutions to conservation challenges and provide measurable improvements and outcomes tied to the resource concerns they seek to address. New Jersey's RCPP land management projects are:

1. **Salem River Bog Turtle Protection and Restoration** – Lead partner, New Jersey Audubon, will help private landowners increase wildlife habitat and habitat suitability for the endangered Bog Turtle population in the Upper Salem River Watershed by offering financial incentives to install and maintain conservation practices.

### **Salem River RCPP Target Area (317.43 KB)**

Northern NJ Small Food Link Conservation Project – NRCS Partner, Urban Agriculture Cooperative, will deliver technical and financial assistance to new and historically underserved urban farmers in Northern N.J.

### **Urban Ag RCPP Map (324.7 KB)**

Applications are available through your local USDA Service Center and online at <https://www.nrcs.usda.gov/getting-assistance/get-started-with-nrcs>

While NRCS accepts applications year-round, if you apply after the program ranking date, your application will automatically be considered during future funding cycles.

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## **Canadian Government Sets New Rules For Importing Romaine Lettuce From United States This Fall**

Rick VanVranken; August 14, 2023; Plant and Pest Advisory

As reported in The Produce Reporter by Blue Book Services on August 1, 2023, the Canadian government has released new temporary licensing rules for importers of US romaine lettuce beginning September 28 and running through December 20, 2023.

The Canadian Food Inspection Agency (CA FIA) summarized these new requirements in their statement outlining the rules: “To decrease the risk associated with E. coli O157:H7 in romaine lettuce, the Canadian Food Inspection Agency (CFIA) is implementing temporary Safe Food for Canadians (SFC) license conditions for the importation of romaine lettuce originating from the U.S. Between September 28 and December 20, 2023, importers of romaine lettuce and/or salad mixes containing romaine lettuce from the U.S. must:

- declare that the product does not originate from counties of Santa Cruz, Santa Clara, San Benito and Monterey in the Salinas Valley, California, U.S., or
- submit an attestation form and Certificates of Analysis for each shipment to demonstrate that the romaine lettuce does not contain detectable levels of E.coli O157:H7

Shippers sending romaine lettuce from other production regions to Canada during this time should expect to “provide a Proof of Origin indicating the state and county where the romaine lettuce was harvested”. Lack of proof of origin will require significant sampling and testing to assure lack of contamination before it will be allowed to be imported. Full details of this new rule are available on the CA FIA website at <https://inspection.canada.ca/importing-food-plants-or-animals/food-imports/food-specific-requirements/romaine-lettuce-from-the-united-states/eng/1601488215302/1601488215678>.

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## **Two Fall Food Safety Trainings**

Jennifer Matthews

This fall the Rutgers On-Farm Food Safety Team is rolling out two brand new classes as part of our From the Ground Up initiative to support new farmers and all small-medium size farms. Our goal in creating these two complementary programs is to give farmers the power to achieve success in produce safety and business.

On Wednesday September 27, 2023, we will be debuting the new class called “From the Ground Up: Produce Safety Planning for Beginning Farmers” held at the Rutgers Specialty Crop Research and Extension Center, 283 Route 539, Cream Ridge, NJ from 10:00am to 2:00pm. We designed this class to allow farmers to set themselves up for success in on-farm produce safety from the beginning, instead of having to go back later to correct infrastructure, systems, or training. A farm that has a well-established food safety culture is better able to meet market demands and consider production changes when planning for the future. This hands-on training will give growers actionable items they can do right away on their farm to improve their food safety practices.

Registration is \$30.00 and includes lunch. Participants in the RU Ready to Farm Program are eligible for a discounted registration fee. Everyone who registers will get a voucher to attend our online “Food Safety Plan Writing Workshop” in October 2023 for free.

On Wednesday October 18th, 2023, we will be holding our first Online Food Safety Plan Workshop from 6:00pm – 8:00pm Eastern Time via Zoom. The two-hour writing workshop will guide farmers through the step-by-step process of writing the plan best suited for their operation. All attendees will receive a customizable template to work with. A food safety plan can be used to standardize and streamline the training of new employees. This saves time in training and guarantees all members of a farm’s team take the same actions under the same circumstances. Having an on-farm food safety plan can guide farmers’ actions around food safety, forecast risk, serve as a worker training tool, and aid with overall organization.

Registration is \$15.00 and free for everyone who attends our September 2023 program in Cream Ridge, NJ.

Follow these links to register and learn more about each class:

<https://go.rutgers.edu/1ete46go>

<https://go.rutgers.edu/5iua7ve7>

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## **Safeguard New Jersey's Wetlands, Preserve Farmland, and Ensure a Sustainable Future with the Agricultural Conservation Easement Program**

The U.S. Department of Agriculture's (USDA) Natural Resource Conservation Service (NRCS) is now accepting applications for the Agricultural Conservation Easement Program (ACEP). Applications that meet eligibility and ranking criteria for ACEP received by October 31 will be considered for FY2024 funding.

ACEP helps landowners, land trusts, and other entities protect, restore, and enhance wetlands, grasslands, and working farms and ranches through two types of conservation easements: Agricultural Land Easements (ALE) and Wetland Reserve Easements (WRE).

Under the Agricultural Land Easements component, NRCS helps protect working agricultural lands and limits non-agricultural uses to protect the long-term viability of the nation's food while supporting environmental quality, historic preservation, wildlife habitat, and protection of open space. This component is also available for grasslands of special environmental significance, or high-quality grasslands under threat of conversion to cropping, urban development, and other non-grazing uses.

Landowners interested in ACEP-ALE must work with a cooperating entity who will submit the required application materials. NRCS does not accept applications directly from producers. State and local governments, non-governmental organizations that have farmland or grassland protection programs, and several New Jersey land trusts are eligible to help interested landowners apply.

Wetland Reserve Easements allow landowners to successfully enhance and protect habitat for wildlife on their lands, reduce impacts from flooding, recharge groundwater, and provide outdoor recreational and educational opportunities. NRCS provides technical and financial assistance directly to private and tribal landowners to restore, protect and enhance wetlands through the purchase of these easements, and eligible landowners can choose to enroll in a permanent or 30-year easement.

To apply for ACEP-ALE, or for more information, please contact Assistant State Conservationist for Programs Gail Bartok, at 732-537-6042 or Easement Specialist Kate Colon, at 732-537-6099.

Applications for ACEP-WRE are available through your local USDA Service Center and online at [www.nrcs.usda.gov/GetStarted](https://www.nrcs.usda.gov/GetStarted).

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## **Theories on Managing Fungicide Resistance Development by Tank Mixing or Rotating Fungicides**

Andy Wyenandt February 15, 2020; Plant and Pest Advisory

The question of whether to tank mix high-risk (HR) fungicides with low-risk (LR) protectant fungicides or the rotation of HR fungicides with LR fungicides remains an open debate. The tank mixing or alternation of fungicides has been widely advocated as a means to delay or minimize the risks of resistance development (Genet et al., 2006; McGrath 2011; Van der Bosch and Gilligan, 2008; van den Bosch et al., 2014; Elderfield et al, 2018), although differences in opinion on whether one is better than the other exist (Genet et al., 2006), or that either method may be an effective means at reducing resistance development (van den Bosch and Gilligan, 2008). The theories behind the rotation or tank mixing of different fungicides follows strategies analogous with managing antibiotic resistance, using methods known as complementary therapy or cycling therapy (van den Bosch and Gilligan, 2008). Fungicide resistance studies with tank mixes or alternations use similar density-independent models as antibiotic resistance and assumes the sensitive and resistant strains to be at low initial densities. Resistance management studies incorporate what is often referred to as take over time as the evaluation criterion (Van der Bosch and Gilligan, 2008). Take-over time is defined as the time-period in which the fraction of the resistant population passes a critical threshold level, thereby reducing the value of the fungicide for disease control (van den Bosch and Gilligan, 2008).

The concept behind the alternation of fungicides with different modes-of-action is that cyclic selection pressure placed on the fungus should help reduce the buildup of resistant populations, however, this idea has been criticized by numerous authors (van den Bosch and Gilligan, 2008). The argument against the alternation of fungicide chemistries is that this method would only work if it comes with a fitness cost (e.g., the ability to reproduce) associated with the resistant population in absence of selection pressure against the target fungicide (van den Bosch and Gilligan, 2008). Thus, without a fitness cost, the fraction of the resistant pathogen population would not change during the time period when the target fungicide is not used (van den Bosch and Gilligan, 2008). This suggests that resistance development would continue as if there had been no alternation at all, and it would take exactly the same number of fungicide applications of the target fungicide to build up a given level of resistance to that fungicide, although the time for resistance build up (i.e., take-over time) would be potentially delayed (van den Bosch and Gilligan, 2008). Birch and Shaw (1997) state that one of the advantages to alternation is the possibility of stabilizing selection pressure, if only one of the fungicides were applied at a time.

The concepts behind the tank mixing of fungicides closely follows the concept behind the alternation of fungicides with different modes-of-action. Van den Bosch and Gilligan (2008) using density-dependent models, showed that if no fitness costs exist, mixtures are no different from alternation strategies when comparable doses are used. Tank mixes can be useful if fitness costs exist, but is questionable whether fitness costs would ever be large enough to make mixtures a useful resistance management strategy. Van den Bosch and Gilligan (2008) suggested that tank mixtures deserve attention for their ability to act as insurance in the sense that large scale losses could be avoided if one component of the tank mixture (i.e., the HR fungicide) suddenly fails, and that this is especially important in pathogens where large-scale epidemics (e.g., cucurbit downy mildew) may occur in one year, but not others. Van den Bosch et al. (2014) using empirical and theoretical modeling suggested the following conclusions with using mixtures as a fungicide resistance tactic: 1) adding a multi-site (i.e., LR fungicide) or a specific site (another HR) fungicide to a high-risk fungicide helps reduce the rate of selection against the fungicide(s) with the specific mode-of-action, 2) adding a partner fungicide while reducing the dose of the high-risk fungicide



reduces the selection pressure for resistance development without compromising effective control; and 3) while there were few studies done, evidence suggests that mixing two high-risk fungicides is also a useful resistance management strategy. The authors also pointed out that due to the limited research in this area of tank mixes, the lack of these studies should be a warning against over interpreting the findings in their review (van den Bosch et al., 2014). Elderfield et al. (2018) in exploring the alternation or tank mixing of low- and high-risk fungicide programs on lifetime yield (e.g., use) of the high-risk fungicide, in other words, the time period before the high-risk fungicide was no longer economically effective, showed through empirical and theoretical modeling that lifetime yield may be different for different fungicide-pathosystems and that alternation or tank mixing may lead to longer lifetime yields (i.e., use). The authors, based on their evidence, suggest that mixtures of low and high risk fungicides will always be the best resistance management tactic when the objective is optimizing the lifetime yield (i.e., use) of the high-risk fungicide (Elderfield et al., 2018). Gisi et al. (2006) determined in the testing of resistance development in *P. viticola* (down mildew of grape) using a Qol (FRAC group 11) and protectant (LR) fungicide tank mix that increasing the dose of the non-Qol partner (LR) fungicide in the mixture resulted in reduced selection pressure. The authors also suggested that the choice of non-Qol (LR) fungicide tank-mix partner and its dosage can significantly affect the success of Qol resistance management strategies under practical conditions.

Parnell et al. (2007) suggested that in-field strategies, such as the alternation or tank mixing of fungicides, used to combat fungicide resistance development may be more useful through the restricted deployment of fungicides over large areas. Restrictions on fungicide use in this manner may be extremely beneficial in controlling and managing fungicide resistance development in pathogens such as *Podosphaera xanthii* (cucurbit powdery mildew) and *Pseudoperonospora cubensis* (cucurbit downy mildew) which spread over vast geographic areas (i.e., the east coast of the U.S.) each year. Research in the mid-Atlantic region of the U.S. has confirmed the presence of cucurbit powdery mildew populations resistant to FRAC codes 3 and 11 fungicides in recent years. This suggests that Qol- and/or DMI-resistant cucurbit powdery mildew populations could be disseminating up the east coast from the southeast region of the U.S. each production season. Importantly, fungicides in FRAC code 11 are still widely recommended and used in some southern tier states, where as recommendations and use of FRAC code 11 fungicides for cucurbit powdery mildew control in the mid-Atlantic region have been mostly discontinued in recent years. In order to help combat fungicide resistance development issues such as this in the future, more collaboration between extension personnel from different regions must be done to help establish more defined fungicide resistance management guidelines for large geographic areas such as the south- and northeast regions of the US.

### **Importance of risk management.**

Because certain pesticide chemistries have specific MOA's there is always a much greater chance for pests (e.g., pathogens, weeds, or insects) to develop resistance. For example, fungi which produce a vast amount of asexual inoculum (i.e. conidia), undergo multiple diseases cycles during a given production season (e.g., powdery and downy mildews), or fungi which have a high probability for sexual reproduction in a field population (e.g., *Phytophthora capsici*) often have a much greater chance for fungicide resistance development. Importantly, in controlling pathogens where there are but a few, HR fungicide chemistries available for use, selection pressure put on the pathogen may be increased through their overuse. Therefore, the lack of proper chemical rotations (i.e., pesticides with different modes-of-action) or improper tank mixes or rotations may have a dramatic effect on resistance development, especially if these high-risk pesticides are over used or used improperly according to the label.

The grouping of similar chemistries together by their modes-of-action (e.g., FRAC group) and the inclusion of resistance management guidelines on pesticide labels are designed to i) reduce the chances for resistance development and ii) help agricultural producers develop and follow resistance management programs. Although application restrictions and resistance management guidelines have been widely adopted by the chemical industry, the follow-through effects of such guidelines have been left solely to the individual applicator; or extension personnel or crop specialists who help train those applying agricultural pesticides. Jutsum et al. (1998) pointed out that the challenge was to develop fungicide resistance management strategies which were relevant to local production practices. In recent years, the use of FRAC, HRAC and IRAC codes has been widely included in state and regional vegetable commercial production recommendations and promoted and used by extension personnel and crop advisors as education and teaching tools in many production regions of the United States. Even with increased awareness and training, the proper use of these pesticides is ultimately placed upon the end-user (e.g., the farmer/applicator) to make sure that the pesticides are properly applied according to the label rate, its restrictions, and state and federal laws.

### Take home thoughts

There is still a lot to learn in the understanding of tank mixing and rotating HR and LR fungicides with each other, and the rotation of HR fungicides with different modes of action on a weekly basis. First, growers need to follow the label. The label is the law. Where appropriate, growers need to rotate HR fungicides with different modes of action (i.e., from different FRAC groups) as much as possible to limit the overuse of any one FRAC group during the production season. In general, tank mixing HR fungicides with LR fungicides will help reduce overall selection pressure for resistance development to the HR fungicide. In crops, where there are but one or a few HR fungicides labeled for control of a specific disease, the use of the HR fungicide(s) needs to be done judiciously.

For more information on the specific fungicides recommended for disease control please see the 2022/2023 Mid-Atlantic Commercial Vegetable Production Recommendations.

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## **Don't Miss out on this Un-BEE-lievable Training! Bee-ginner's Beekeeping :The Basics of Apiculture**

Online Class - Opens October 2nd & Closes October 31st, 2023

Participants can complete the course content (which will take approximately 14-16 hours) at their own pace anytime during the period the course is open. There is an optional live Q & A session with the instructors during which you can ask questions about the course content.

<https://cpe.rutgers.edu/beekeeping/beginners-beekeeping>

If you have any questions and/or concerns, bee sure to contact us!

BEE sure to share with your friends, colleagues and/or members! Discounts available for staff and/or students!

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## **Avoiding Plectosporium Blight in Cucurbit Fields in 2023**

Andy Wyenandt; July 13, 2023; Plant and Pest Advisory

Plectosporium blight, also known as Microdochium blight or White speck, caused significant problems in some pumpkin fields the last few summers in New Jersey. The soil-borne fungal pathogen, although somewhat uncommon, can unexpectedly show up in some years and cause significant losses if left uncontrolled. The fungus survives in the soil on decaying plant debris where it can remain saprophytic by surviving off organic matter. Infection is characterized by the production of numerous light tan to “bleached” spindle shaped lesions that develop on vines and the undersides of infected leaves. Heavily infected vines and leaves can die leading to premature defoliation and subsequent sunscald on fruit. In cases of heavy disease pressure, spores that are produced on the bottom sides of leaves fall and infect the top sides of fruit laying beneath the canopy. Infection of stems leads to premature browning and drying reduce their longevity. Fruit infection, in most cases, remain mostly cosmetic in nature reducing fruit quality and may predispose fruit to other opportunistic fruit rots. Plectosporium blight often shows up during periods of prolonged wet weather where the soil remains wet for extended periods. “Hot spots” typically appear in fields before the pathogen is further spread by driving rains and wind.

From a production stand point, stay away from fields with known history of the disease for as long as possible; provide adequate spacing between plants in- and between rows (i.e., avoid the overcrowding of plants); avoid over (pre-plant) fertilization that can lead to thick, dense canopies; avoid overhead irrigation (if possible); avoid planting in area of a field that remains heavily shaded where soils tend to dry too slow.

Controlling Plectosporium blight begins with regular scouting, recognizing symptoms, and identifying “hot spots” in the field. Protectant fungicides, such as chlorothalonil, as well as those used in weekly maintenance spray programs for cucurbit powdery mildew control will help control Plectosporium blight as long they applied on a weekly schedule with a high volume of water with thorough coverage. To help improve control on the undersides of leaves, a FRAC code 11 fungicide such as Quadris Top or Pristine, can be added to the tank mix. Remember, FRAC code 11 fungicides have translaminar activity and will move from the top surface of the leaf to the bottom. Growers who grow powdery mildew resistant varieties need to remember to scout their fields regularly even if cucurbit powdery mildew has not been detected on the farm or if regular maintenance sprays haven’t begun.

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### **New Fact Sheets**

FS1353: Invasive Plants and Native Alternatives for Landscapes <https://njaes.rutgers.edu/fs1353/>

FS019: How to Hire a Tree Care Professional <https://njaes.rutgers.edu/FS019/>

FS138: Unit Pricing- what it is and How to Use it <https://njaes.rutgers.edu/FS138/>

E375: The Equine Hindgut Microbiome <https://njaes.rutgers.edu/e375/>

## **Private Applicators: NJDEP August Mailing of 2024 Invoices & Recertification Credit Status**

Pat Hastings; Plant and Pest Advisory

The New Jersey Department of Environmental Protection has mailed out pesticide license credit status to applicator, operator, and dealer mailing addresses of record. If you have not received your notice please review “NJDEP Pesticide Licensing & Registrations – 2024 Pesticide License Renewal Information”.

If you are a Private Pesticide Applicator with a license expiration of October 31, 2023 AND have accrued 8 CORE and 16 PP2 recertification credits, your mailing will include an invoice with a zero balance. There is no fee for Private applicators/Gov’t exempt license renewals. However, a paper license will not generate unless the “\$0.00” renewal invoice is processed. To process these invoices, use the “paying online” directions that are provided in the General Information section of the NJDEP announcement. Make sure to process your invoice online to ensure your license remains active. The NJDEP provides that delays in processing of licensing could lead to loss of certification status. If this occurs, the Applicator will need to pass the exams again to become certified again.

Once that is complete, you will be mailed your paper Private Pesticide Applicator License with a new expiration date of October 31, 2028.

An image of the paper invoice appears below. Notice that the title of the document is “Pesticide Licensing Invoice” and that red arrows and type highlight the three pieces of information needed from the invoice for online processing: 1) Invoice #; 2) Amount due: \$0.00; and 3) the license number.

When you receive your invoice, process your license renewal online by:

1. Go to [www.pcpnj.org](http://www.pcpnj.org)
2. Under the heading Online Payments and Reports, click on the link labelled “Pay For Your License Online”
3. Enter Invoice number (found on paper invoice; if you do not have the invoice number, you may look it up online at Invoice Numbers for Unpaid License Invoices – Individuals)
4. Enter License number (make sure to capitalize any letters at the end of your license number)
5. Click “Continue” and follow prompts from there

Private Applicators who have NOT attended the recertification training to achieve the minimum number of recertification credits required [8 CORE and 16 PP2] will NOT receive an invoice for licensing in August. You will lose your license on October 31st unless you take the courses needed, or retake the Private Pesticide Applicator Exam.

**IMPORTANT: It is illegal for certified Private applicators to use or supervise use of pesticides without a license.**

Private applicators receive an update of recertification status once a year. The “Recertification Update Form” will tell you when your 5 year period is up, how many units you have accumulated and how many more you need. If you are not eligible for recertification you will not receive this notice. Verification of your recertification credits can be done online throughout the year.

1. Click on this link <https://www.nj.gov/dep/enforcement/pcp/bpo.htm>

2. Scroll down to “Credits and Courses”
3. Click on link labeled “Check Your Credit & Course History-Commercial Applicator” or “Check Your Credit and Course History-Private Applicator”
4. Enter Requested information (license number with letter capitalized, and if prompted your birthdate including slashes, and last four digits of Social Security number)
5. Click OK

Private Applicators are encouraged to accumulate the requisite 8 CORE subject matter and 16 Private Part 2 (PP2) credits subject matter over the 5 years. NJDEP’s recertification credit cap for online training is of 25% total required credits [i.e., for Private applicators, 2 of the total 8 CORE and 4 of the total 16 PP2].

The license will be valid for a minimum of 5 years, at which point another \$0 invoice will generate if you have accrued the minimum recertification credits.

Please contact Rutgers NJAES Pesticide Safety Education Coordinator Pat Hastings for personal assistance to process your online your zero invoice. She can be contacted at 848-932-0176 or email at [hastings@njaes.rutgers.edu](mailto:hastings@njaes.rutgers.edu).

If there are any questions on the certification and licensing program for Private Pesticide Applicators, please call the Pesticide Control Program at (609) 984-6568.

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## **Soil Fertility from Non-Commercial Nutrient Sources**

Joseph Heckman; August 21, 2023; Plant and Pest Advisory

All essential plant nutrients cycle through the ecosystem of soil, water, air, plant, microbe, and animal. Agronomic information about the composition and beneficial use of waste materials and how the nutrients can be recycled can help growers reduce the need to purchase soil fertility inputs. Many different types of non-commercial nutrient sources are available in New Jersey. Examples include horse manure with bedding, shade tree leaves, lawn clippings, wood chips, food waste, coffee grounds, eggshells, wood ash and more.

With 43,000 horses in New Jersey, there is an abundance of horse manure produced. One horse can produce about 65 pounds of manure plus bedding per day. The quantity of horse manure is substantial on a statewide basis. Unfortunately, sometimes horse manure goes to landfills when it should be used to build and sustain soil fertility.

The Soil Profile Newsletter 2023 issue posted at Rutgers NJAES explains how to build and maintain soil fertility harnessing the nutrient supplying ability of horse manure and many other types of non-commercial materials. The chemical composition and soil fertility value of each material is presented for beneficial use. Available on the web at Rutgers NJAES ‘The Soil Profile’: <https://njaes.rutgers.edu/soil-profile/pdfs/sp-v28.pdf>

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## **Center for Produce Safety Annual Symposium**

Wes Kline

The Center for Produce Safety (CPS) holds an annual symposium where researchers present findings from projects funded by CPS. The goal is to present results faster that may help the industry address food safety issues. I selected four summaries that may apply to the industry in New Jersey. There are fifteen summaries in total. If you would like to review the remainder or read a research report go to <https://www.centerforproducesafety.org>

**Cleaning and sanitation of harvest equipment.** The importance of cleaning and sanitation of harvest containers and equipment has become increasingly clear. However, a project reported at the Symposium [2023 Chen final report] underlines the importance of continued grower/harvester outreach and education. Machine harvest of blueberries has only recently become possible. This project involved a grower survey that found that only 70-75% clean and sanitize harvest equipment “regularly”, 3 % never perform this vital task and the rest were unaware of the need. Previous studies and outbreak investigations have taught the industry that surfaces on harvesting equipment and containers offer Lm and other microorganism’s niches to reside in and deposit biofilms that permits survival and subsequent cross-contamination of products unless effective, immediate, and verifiable cleaning and sanitation is performed at least daily. It is important for the industry to continually create cleaning and sanitation awareness across all sectors of the industry and leverage our accumulated knowledge on best practices.

**Product testing – Preharvest, more samples, more mass is better.** Sampling for pre- or post-harvest product testing has been an important and ongoing discussion within the produce industry. Three different sampling models were explored including leafy greens/STECs, tomatoes/Salmonella, and cilantro/Cyclospora [Stasiewicz final report 2023]. Regardless of commodity and pathogen, preharvest is more powerful than finished product testing for detection of pathogens. Steps (e.g., cooling, sorting, washing) that might reduce the microbial load postharvest serve to reduce the likelihood of detecting already low-level, randomly distributed, and sporadic contamination. Preharvest sampling plans need to be based upon the hazard analysis and the types of risks present in any given field. There is no practical “right number” of samples, but sampling power, or the ability to detect low level pathogens, increases with the number of samples taken and the size or the total mass of the samples. So, the more the better within the constrictions of sampling resources. Risk mapping by observation or additional rapid sampling and testing in the production environment [Verma 2023 final report] can help identify potential “hot spots” and permit concentrated sampling in those higher risk areas.

**Controlling wash water quality in dump tanks** – It is a question of systems control. Dump tanks often employ re-circulated wash water, handle large amounts raw product, and over time accumulate high organic loads. In a study focused on wash water control in apple dump tanks, researchers confirmed disinfectant concentration, chemical oxygen demand or COD, and contact time as critical variables that must be monitored closely to ensure pathogen control [Zhu 2023 final report]. In lab-based experiments using dump tank water the results show that as COD increases, free chlorine’s efficacy at controlling *Listeria* in wash water decreases while PAA was not impacted by COD levels. In commercial-scale experimentation using four different apple packing operations and employing apples inoculated with non-pathogenic *Enterococcus faecium* (EF) as a surrogate for *Listeria*, the research team found that each of the four dump tank systems behaved differently and that while elevated levels of free chlorine and PAA at moderate COD levels reduced EF on the uninoculated fruit and wash water, they did not prevent cross contamination from inoculated fruit to uninoculated fruit. This result is a stark reminder to all fruit and vegetable packing and processing operators that “one size, fits all” approaches to controlling wash water quality are not sufficient and that each system and product combination must be tested, operating parameters established (sanitizer concentration, contact time, pH, COD (or even just turbidity), rate of make-up water addition, product load per unit time, etc.), and microbial control validated and continuously verified during commercial operations.

***Listeria monocytogenes* (Lm) and Salmonella survival.** Timing is everything. *Listeria monocytogenes* and *Salmonella* can survive on surfaces found in dry stone fruit packinghouse environments and persist after the season [Dawson final 2023 report]. It has been shown that *Listeria* survives in wet conditions and this research demonstrates that *Listeria* also persists in dry conditions, even better than *Salmonella*. In packinghouses closed after a season, the aerobic plate count was shown to increase over time in the dry, idle facilities. Therefore, at the end of a packing season, it is best to rigorously clean the equipment and the production environment with detergents and agitation to eliminate organic residues and sanitize surfaces properly to ensure Lm and other bacteria are killed immediately and biofilm formation is prevented. Importantly, repeat the process immediately before start up the next season.

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## **Special Occasion Events on Preserved Farms**

Elena Gable; Cumberland County Planning Department

In February 2023, the State Legislature passed P.L. 2023, c.9 allowing special occasion events (SOEs) on preserved commercial farms. SOEs are defined as a wedding, lifetime milestone event, or other cultural or social event, conducted on preserved farmland on a commercial farm. Qualifying preserved farms are permitted to host a maximum of 26 SOEs annually, provided an application is submitted to the easement holder. In Cumberland County, the easement holder is either the Cumberland County Board of Commissioners or the State Agriculture Development Committee (SADC). Preserved farms seeking additional information are encouraged to review educational materials on the SADC Website. The County SOE Application will be posted on the Cumberland County website in the coming weeks. Should you have any questions, please contact Elena Gable at the Cumberland County Department of Planning, Tourism, & Community Affairs: 856-453-2175; [elenaga@cumberlandcountynj.gov](mailto:elenaga@cumberlandcountynj.gov).

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## **2024 Northeast SARE Farmer Grant Proposals**

The Call for 2024 Northeast SARE Farmer Grants is now available. Approximately \$800,000 has been allocated to fund projects for this grant cycle. Awards of up to \$30,000 are available, depending on the complexity of a project. The online system for submitting proposals will open on September 15, 2023. Proposals are due no later than 5:00 p.m. EST on November 14, 2023.

Northeast SARE Farmer Grants provide the resources farmers need to explore new concepts in sustainable agriculture conducted through experiments, surveys, prototypes, on-farm demonstrations or other research and education techniques. Projects address issues that affect farming with long-term sustainability in mind.

Farmer Grants are designed to be a strong starting point for farmers interested in pursuing grant funding for projects. Before starting their proposals, potential candidates identify a Technical Advisor who can provide non-farming expertise in areas such as research design, troubleshooting, and promotion.

The Technical Advisor acts as a go-to support person throughout the grant project, making it easier on first time grantees and forging new relationships in agricultural communities across the Northeast.

Northeast SARE funds projects in a wide variety of topics, including marketing and business, crop production, raising livestock, aquaculture, social sustainability, climate-smart agriculture practices, urban and Indigenous agriculture and more.

Northeast SARE covers the Northeast and Mid-Atlantic states of Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, West Virginia, Vermont, and Washington, D.C.

The Farmer Grant program is driven by the Northeast SARE Outcome Statement: “Northeast agricultural communities honor the holistic connection among land, water, air, and all living beings. Agriculture in the Northeast is accessible, sustainable, and just, addressing historic and current inequities so all farmers and farm employees can steward resources to ensure sustainability, resilience, economic viability, and a high quality of life.”

For more details go to: <https://www.sare.org/wp-content/uploads/Northeast-SARE-Farmer-Grant-Call-for-Proposals.pdf>

## **Calendar of Events**

- Indicates a newly added event

### **September 7**

Root Cause Analysis “What & Why”; Join Dr. Jennifer McEntire, of Food Safety Strategy, for a crash course in RCA with an emphasis on practical applications for industry. To register go to <https://go.rutgers.edu/tefa2bdw>

- **September 20th**

**Plant Pathology 101** – Tim Waller, Cumberland County RCE

Time: 6:00 – 7:00pm (5:30-6:00P.M. sign-in)

Registration link: <https://go.rutgers.edu/tiu37cc3>

### **September 25-27**

**Florida Fruit & Vegetable Association Annual Convention Ritz Carlton Hotel Naples, FL**; Find more info at [www.ffva.com/page/convention](http://www.ffva.com/page/convention)

### **September 26-29**

**IPPS ER Annual Conference**; Get ready for an extraordinary experience at the IPPS Eastern Region’s Annual Conference! Brace yourself for four exhilarating days of reconnecting, recharging, and immersing yourself in the wisdom of industry legends. Sheraton Hamilton, Ontario, Canada. Visit <https://ena.org> for more information.

- **September 27th**

**Insect Pests 101** – Tim Waller, Cumberland County RCE

Time: 6:00 – 7:00pm (5:30-6:00P.M. sign-in)

Registration link: <https://go.rutgers.edu/f8q87ung>

### **September 27**

**From the Ground Up: Produce Safety Planning for Beginning Growers**; Rutgers Cooperative Extension of Mercer County, 1440 Parkside Ave., Ewing, NJ 08638; 10AM-2PM; \$30.00 each; Lunch provided; Gain basic understanding of Food Safety Culture and why it is important, five things growers can do right away on their farm to reduce risk, cleaning and sanitizing, and key points of FSMA: PSR the growers need to know; Find more info and register at <https://go.rutgers.edu/kcx1n6bj>

### **October 5**

**Root Cause Analysis “How”**; Join Dr. Jennifer McEntire, of Food Safety Strategy, for a crash course in RCA with an emphasis on practical applications for industry. To register go to <https://go.rutgers.edu/tefa2bdw>

### **October 18**

**From the Ground Up: Online Food Safety Plan Writing Workshop**; Online Food Safety Plan Writing Workshop; Work through the components of a food safety plan with our help from your home office! By the end of this class you will have a draft plan and a more robust food safety program for your farm; \$15.00 per person or free for the attendees of our September 27 program; Any questions contact Jenn Matthews at [jmatthews@njaes.rutgers.edu](mailto:jmatthews@njaes.rutgers.edu); Register online at <https://go.rutgers.edu/kcx1n6bj> or go to <https://go.rutgers.edu/5iua7ve7> to see more events.

### **October 18-28**

**IPPS International Tour 2023;** Tour starts in Washington DC, ends in Durham NC; Join IPPS Southern Region of North America for exceptional food, drink, and friendship from our nation's capitol to the mountains of NC! Experience innovative nursery tours, unique cultural experiences, fabulous gardens, and Southern Region" hospitality. Space is limited, so sign up early! Visit <https://ipps.org> to register and find more information.

### **November 8-9**

**Northeast Greenhouse Conference and Expo;** Doubletree by Hilton, Manchester, NH; Educational sessions focusing on advanced biocontrol, disease management, business and marketing, greenhouse vegetables, perennial production, and some sessions in Spanish will be offered. Come visit vendors at the trade show with three dedicated hours in each day of the program. Learn more at [www.negreenhouse.org](http://www.negreenhouse.org)

### **November 27-December 1**

**Irrigation Show & Education Week** Henry B. Gonzalez Convention Center San Antonio, Texas; Find more info at [www.irrigation.org/](http://www.irrigation.org/)

### **December 5-7**

**Washington State Tree Fruit Association Annual Meeting** Three Rivers Convention Center Kennewick, Wash; Find more info at [www.wstfa.org/annual-meeting/](http://www.wstfa.org/annual-meeting/)

### **January 6-13, 2024**

**Pennsylvania Farm Show;** Harrisburg, PA; The largest indoor agricultural exposition under one roof in the nation; Save the date, more info to come

### **January 23-24, 2024**

**Empirestate Producers Expo 2024-** New exciting changes coming this year. Small fruit sessions will be returning and possibly others. More sessions planned for each day this year. [www.nysvga.org](http://www.nysvga.org)

## **Pesticide Container Recycling**

**Helena Chemical  
440 N. Main St.  
Woodstown, New Jersey**

**Helena Chemical  
66 Route 206  
Hammonton, New Jersey**

**Rutgers Fruit and Ornamental  
Research Extension Center  
283 Route 539  
Cream Ridge, NJ 08514-9634**

September 22  
October 20

Sept. 15  
Oct. 13

September 29  
October 27

### **Plastic Pesticide Container Processing Steps and Size Limits**

- All pesticide containers must be either triple rinsed or pressure rinsed, drained and dry inside;
- All pesticide containers must be free of residue (other than stains);
- The booklet must be removed (it is not necessary to remove the paper labels glued to the container);
- Foil seal must be removed;
- Only non-refillable pesticide containers will be accepted – you must drill a ¼-inch hole in the bottom of the container or with a utility knife make a 6-inch slit in the bottom of the container so the container will not hold liquids;
- Only pesticide containers embossed with HDPE or the recycling #2 will be accepted;
- Pesticide containers up to 55-gallons in capacity will be accepted. 5-gallon pales must be cut in half; 30-gallon containers into at least 4 pieces; and 55-gallon containers into at least 8 pieces. This can be accomplished using a sawsall, chainsaw, circular saw, or reciprocating saw. It is not necessary to cut up containers less than 5-gallons; and Pesticide containers must have originally held an EPA registered pesticide.

### **Items that Will Not Be Accepted and Will Be Returned to the Participant**

- Pesticide containers with dried formulation on the container, pour spout or the spout threads;
- Pesticide containers with any liquid residue;
- Pesticide containers where the insides are caked with dried residue;
- Mini-bulk, saddle tanks and nurse tanks, which can be made of fiberglass;
- Pesticide containers with lids; or
- Containers that held any type of petroleum oil product or antifreeze.

### **Non-Waxy Cardboard**

Helena Chemical will also be accepting non-waxy cardboard 1 p.m. to 3 p.m and during the scheduled pesticide container collection times. The clean non-waxy cardboard must be broken down and flattened. Cardboard delivered to the Atlantic County site must be tied. Clean Non-waxy cardboard will also be accepted year-round at the Cumberland County Solid Waste Complex's Convenience Center.

1 CORE credit given if you take your NJ Pesticide License with you to drop off.

More information can be found at [www.nj.gov/agriculture/divisions/anr/nrc/processingsteps](http://www.nj.gov/agriculture/divisions/anr/nrc/processingsteps)

# Spotted lanternfly (SLF) Life Stages, Where to Look, and Management



## LIFE STAGES

Egg Masses  
Instars 1-3 (Black nymphs)  
Instar 4 – (Red nymphs)  
Adults

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |

Note: There is considerable overlap between the different life stages of SLF. Egg masses also take on multiple appearances, covered **and** non-covered masses should be removed.

Photos: Steven Rettke and Timothy Waller – Rutgers Cooperative Extension

## WHERE TO LOOK

Tender Plants / New Growth  
Woody Plants  
Hard Surfaces

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |

**Favorite tender plants and new growth:** Roses, grapes, herbaceous weeds, flowers, shrubs, and new growth of other favorites. **Favorite woody plants:** Tree of heaven, black walnut, birch, willow, sumac, red and silver maple. **Common hard surfaces:** Pallets, stone features, buildings, telephone poles, fences, stationary vehicles, etc.

## MANAGEMENT

Scrape Egg Masses  
Squish or Stomp  
Sticky-bands or Circle-traps  
Contact Pesticides\* – *last resort*

| JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     |     |     |     |     |     |     |     |     |

**\* DO NOT SPRAY PLANTS DURING THEIR BLOOM PERIOD. Contact materials:** Insecticidal soaps, Natural pyrethrins, Carbaryl, Neem oil (formulations vary greatly), Zeta-cypermethrin, Synthetic pyrethroids (bifenthrin, deltamethrin), Malathion. **ALWAYS REFER TO THE LABEL OF ALL MATERIALS, THE LABEL IS THE LAW.**

Compiled by Rutgers - Nursery and Green Industry Working Group  
(as of 4/17/23)



# Oomycete Material Options in Ornamentals - Phytophthora and Pythium Root Diseases

Prepared by Dr. Timothy Waller – Rutgers University – Agricultural Agent – Nursery Crops (2023)

| FRAC     | Risk of pathogen resistance | Active(s)                                                     | Example Tradenames                            | (Please see each specific label)<br>Notes                                                                                                                                                                                                                                                                                                                                                     | Translocation Movement in plant                                         |
|----------|-----------------------------|---------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 4        | High                        | Mefenoxam                                                     | Subdue Maxx, Subdue GR                        | <b>See each label.</b> Typically, spring and fall drench applications with total allowable of 6lb/A/year (Subdue Maxx). Foliar, drench, soil directed, soilless media incorporation, and chemigation applications. <b>See label for minimum reapplication intervals for drench applications</b> (ranging from 3 weeks to 4 months). <i>Mefenoxam resistance has been detected in the USA.</i> | <b>Xylem mobile systemic</b> - translocation upwards (acropetal)        |
| P07      | Low                         | Phosphonates. Aluminum tris (O-ethyl phosphonate)             | Areca, Aliette, generic fosetyl-Al            | <b>See each label.</b> Foliar and drench/soil reapplication interval is 30d or greater. <b>Do not apply group P07 and copper-based fungicides within 14d of one another</b>                                                                                                                                                                                                                   | <b>Fully systemic</b> - xylem and phloem mobile (amphimobile)           |
| P07      | Low                         | Phosphonates. Mono- and di-potassium salts of phosphorus acid | Alude, Reliant, K-Phite 7LP (newer label)     | <b>See each label.</b> Generally, soil drench minimum reapplication interval is 30d and foliar applications, less than. <b>Do not apply group P07 and copper-based fungicides within 14d of one another</b>                                                                                                                                                                                   | <b>Fully systemic</b> - xylem and phloem mobile (amphimobile)           |
| 40       | Low to Medium               | Dimethomorph, Mandipropamid                                   | Stature SC, Micora                            | <b>See each label.</b> Foliar, drench, soil directed, and chemigation applications.                                                                                                                                                                                                                                                                                                           | <b>Translaminar systemic</b> - local translocation                      |
| 40 + 45* | Medium + High*              | Dimethomorph + ametoctradin*                                  | Orvego                                        | <b>See label.</b> Foliar, drench, soil directed, and chemigation applications.                                                                                                                                                                                                                                                                                                                | <b>Translaminar systemic</b> - local translocation                      |
| 21       | Medium to High              | Cyazofamid                                                    | Segway-O, Celoxid SC                          | <b>See each label.</b> Minimum reapplication interval 14 - 21d. No more than 2 applications per crop cycle. Applied as drench or soil directed.                                                                                                                                                                                                                                               | <b>Protectant</b> - no systemic activity                                |
| 49       | Medium to High              | Oxathiapiprolin                                               | Segovis                                       | <b>See label</b> for use restrictions and tank-mix compatibility.                                                                                                                                                                                                                                                                                                                             | <b>Xylem mobile systemic</b> - translocation upwards (acropetal)        |
| 11       | High                        | Fenamidone                                                    | Fenstop                                       | <b>See label:</b> Now labeled for outdoor nurseries. Reapplication interval is 28d                                                                                                                                                                                                                                                                                                            | <b>Xylem mobile systemic</b> - translocation upwards (acropetal)        |
| 43       | Medium                      | Fluopicolide                                                  | Adorn                                         | <b>See label.</b> Foliar, drench, and chemigation applications. No more than 2 applications per crop cycle. Minimum reapplication interval - 14d.                                                                                                                                                                                                                                             | <b>Xylem mobile systemic</b> - translocation upwards (acropetal)        |
| BM02     | Unknown (likely low)        | Biologicals                                                   | Rhapsody (bacteria), Root Sheild Plus (fungi) | <b>See each label.</b> Reapplication interval typically very rapid at 3-10d.                                                                                                                                                                                                                                                                                                                  | <b>Antagonistic</b> - hinders pathogen colonization of host tissues     |
| -        | -                           | Quaternary ammoniums                                          | KleenGrow, Uptake, Physan 20, Green Shield    | <b>See each label.</b> Typically used in sanitation efforts, irrigation maintenance (biofilms), and some labels allow for application to plant surfaces. Phytotoxicity concerns are rate and label specific. Generally considered broad spectrum fungi/bacteria/oomycete pesticides.                                                                                                          | <b>Direct contact</b> - varying residual activity, no systemic activity |
| -        | -                           | Hydrogen dioxides                                             | Zerotol, Oxidate                              |                                                                                                                                                                                                                                                                                                                                                                                               |                                                                         |

Disclaimer - Materials represent examples and do not cover all possible control scenarios. Tradenames listed do not imply endorsement and are used as examples only. You must personally refer to, and strictly follow the label for each compound prior to use - Rutgers is not responsible for misused materials or damages thereof. The label is the law. Labels will provide detailed information on where and how the material can be legally used. Additionally, application intervals, compatibility, surfactant use, and other key information is described in detail. Always discuss treatments with your local agents.

**Understanding your materials** – Compounds used to control Oomycetes (Phytophthora, Pythium, Phytophthora) are called Oomycides and are fundamentally different than those used for needlecast (fungi, fungicides). Within available materials there are three main groups, which describe where they will work on the plant given the application technique. Phytophthora management focuses around treating the roots, or providing materials that reach the roots. **Protectants** – are **non-mobile**, meaning they stay exactly where applied, must be root applied. **Xylem mobile systemic** – move upwards, and the roots must be treated. **Translaminar systemics** – move very short distances into tissues, again meaning the roots must be targeted. Finally, the **Amphimobile/Fully systemics** – can move upwards to leaves (xylem) and down to the roots (phloem) meaning foliage or roots can be targeted. These are the **P07**.

**Be mindful of water** – Fast drying soils (sandy loam) are less conducive to Phytophthora development than those that are wet or waterlogged (such as clay heavy). Phytophthora (and other root pathogens) often require water for dispersal of their propagules or swimming zoospores and subsequent infection of plant material. This means paying keen attention to not overwatering, mindful of how long roots are staying wet, standing water, and locations of water movement or runoff zones. If you are growing more susceptible species, such as Rhododendrons and fir trees, it is important to make sure the area is well-drained in that location. Planting on a gentle slope or mound is preferable in both field and container areas, as this promotes better drainage, evaporation, and airflow. Avoid tightly spaced plants, overgrowth, and high weed densities as this does not allow for adequate air movement (which increase humidity and decreases evaporation). Avoid over irrigation, especially during spring/fall.

**Start clean – stay clean** – Segregation or quarantine of incoming plants is an often-underutilized production practice. This practice alone could stop a pathogen infestation before it ever gets going and should be taken seriously, especially if plants are headed into a field to replace cut trees. Only purchase seedlings from reputable nurseries and make sure to carefully inspect the plants upon delivery. Pay careful attention to the roots and crowns of the seedlings and do not plant any material that is suspicious. It is worth rejecting a few plants than dealing with a perpetual root issue. Keep track of all crop inputs, especially seedling areas. Phytophthora and other fungi can be spread via both above and below ground. *Regular maintenance of equipment, especially used in diseased areas, is critically important.* Cleaning then sanitizing is critical as many sanitizing agents break down rapidly when in contact with organic matter, such plant debris. Consider all non-sterile inputs as potential points of contamination or vectors for disease spread. This is especially true for areas with known histories of Oomycete disease presence.

**Frequent monitoring** is critical to addressing potential issues before they become uncontrollable problems. Scout the fields regularly and train your employees on what they should be looking for, especially in susceptible hosts. Encourage them to report any signs or symptoms that might indicate declining plant health. **Plant health should always be addressed in disease management. Call us!**

**Rutgers, The State University of New Jersey**

Prepared by Dr. Timothy Waller

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Phone: 856-451-2800 EXT. 1

**WE R** HERE WHEN YOU NEED **US**

**Please take this quick, 5-question survey**

(Rutgers RCE Phytophthora Project)

<https://go.rutgers.edu/lgixdg25>





## August 2023

### Rutgers Nursery and Ornamental Related Research and Demonstrations



Tim Waller in the high tunnels at RAREC.  
Photo: Kaylynn Hyson, Rutgers Master Gardener program, Cumberland County.

With the help of **Rutgers Agricultural Research and Extension Center (RAREC)** farm crew and funding through RCE leadership, **Tim Waller** (Cumberland, Nursery Crops) has been diligently working to bring four Quonset-style high tunnels back into production for [nursery and ornamental related research and demonstrations](#). Two of the four high tunnels are currently in use, with one each flagged for nursery and ornamental plant pathology, entomology, plant physiology/propagation, and headhouse use. There are multiple trials related to fungicide efficacy towards *Phytophthora* and other root diseases utilizing economically important conifer varieties. Two corresponding

trials are housed in the greenhouse bays of RAREC. Also, 15 conifer varieties are being grown to outplant a Christmas tree demonstration area early next spring that will enable growers to observe growth habits, year-over-year maturity, and ultimately final presentation of trees. In addition, economically important new-use native plants and key nursery standards will be outplanted to provide opportunities for trials and grower demonstrations.

### North American Strawberry Growers Association Annual Tour



Research plots of cranberries at the P.E. Marucci Center for Blueberry and Cranberry Research and Extension.  
Photo: Kate Brown.

The North American Strawberry Growers Association [visited New Jersey on August 15 and 16 for its annual tour](#). Executive Director Kevin Schooley, who is based in Ontario, Canada, organized the tour with suggested stops from RCE agricultural agents, **William Hlubik**, **Peter Nitzsche**, and **Gary Pavlis**. Tour stops included farms in Gloucester, Atlantic, Burlington, and Monmouth counties agents and involved RCE agents **Michelle Infante-Casella**, **William Bamka**, **Richard VanVranken**, and **Gary Pavlis**, who provided information about each farm and highlighted topics about New Jersey agriculture to participants. RCE Program Associate **Kate Brown** also assisted with discussions on the tour.

### Food Innovation Center Co-Hosts Inaugural NJ FoodTech 2023 Conference

Rutgers **Food Innovation Center**, New Jersey Economic Development Authority, and Middlesex County, partnered on the first annual [NJ FoodTech 2023 Conference](#). The conference was designed to promote the growth of New Jersey's food technology sector by building awareness of its strength in food innovation, leading to business retention and attracting business opportunities. A variety of experts presented on industry trends, indoor vertical farming, the state of the market, and investor strategies.

The event also featured dynamic panel discussions on innovative sustainability, funding through private equity, food manufacturing survey results, and ample networking opportunities.

### **RCE Agents Coordinate Northeast SARE Summer Meeting and Tour**

The Northeast USDA Sustainable Agriculture Research and Education (NESARE) Program Summer Meeting and Tour took place this year in New Jersey, from July 25-27. **Stephen Komar**, agricultural agent in Sussex County, is the Rutgers State Coordinator for SARE in New Jersey, and **Michelle Infante-Casella**, agricultural agent in Gloucester County, is the co-coordinator. State Professional Development Program Coordinators and co-coordinators from 11 states met along with the NESARE Administrative Council. On July 26, tours for the more than 50 participants of this summer meeting took place at Chickadee Creek Farm, recipient of 2018 Northeast SARE grant: *FNE18-892, Analyzing the Profitability of Seasonal Wreath Production*; Beneduce Vineyards, recipient of a 2018 Northeast SARE Farmer Grant: *FNE18-885, Comparison of Five Methods of Crop Thinning in Pinot Noir and their Effects on Fruit Composition and Wine Quality*; and **Rutgers Snyder Research and Extension Farm**, whose 390 acres feature several agricultural studies, including agrivoltaics, fiber hemp, leafy green amaranth, and hazelnut production.

### **2023 Turf Field Days Attract More than 500 Participants**

[Rutgers 2023 Turfgrass Research Field Days](#) comprised three events that were held on July 25-26, during which faculty, staff, and students in the **Rutgers Center for Turfgrass Science** presented their current research findings. The two-day event attracted more than 537 attendees from Finland, Canada, and 18 U.S. states. The Golf and Fine Turf Field Day took place at **Hort Farm 2** in North Brunswick, NJ, while the Lawn, Landscape, and Sports Turf Field Day and the evening Sod Tour Field Day were held at the **Rutgers Plant Science Research and Extension Farm** near Adelphia, NJ. Partners in this annual event included the New Jersey Turfgrass Association, Sports Field Managers Association of New Jersey, and Cultivated Sod Association of New Jersey.

### **Of Interest**

The following new and updated bulletins and fact sheets are available on [NJAES Publications](#):

[E375: The Equine Hindgut Microbiome](#)

Weinert-Nelson, J. (*USDA-ARS Post-Doc*) and **Williams, C.**

[FS019: How to Hire a Tree Care Professional](#)

**Grabosky, J., Polanin, N., Zipse, P., and Dvorin, R.**

[FS138 - Unit Pricing: What It is and How to Use It](#)

**Salt Taylor, J.**

### **Recent Honors**

**Tracy Anthony**, professor in the Department of Nutritional Sciences, was awarded the Osborn and Mendel Senior Investigator Award by the American Society for Nutrition (ASN) and the ASN Foundation, in recognition as one of the nutrition field's top researchers, clinicians, and educators.

*Rutgers New Jersey Agricultural Experiment Station is an equal opportunity program provider and employer.*

## Regularly Scheduled Meetings

### Pesticide Credit Exams

November 14th, 9:30A.M.-2:30P.M.

RCE - Cumberland, NJ

Virtual testing available.

Sign-up, exam schedule,  
and find more information at  
<https://pacer.rutgers.edu/>

Manuals available for purchase at  
291 Morton Ave  
Millville, NJ 08332

### Cumberland County Agriculture Development Board

Meetings are held on the 3rd  
Tuesday of each month.  
Meetings start at 7 p.m.

Virtual Meetings Information  
can be found on the  
Public Meeting Calendar on  
[cumberlandcountynj.gov/calendar](http://cumberlandcountynj.gov/calendar)

For more information call the  
Dept. of Planning, Tourism,  
and Community Affairs  
at 856-453-2175

Chair: Al Caggiano, Jr  
Commissioner Liaisons:  
Victoria Groetsche-Lods

### Cumberland County Board of Agriculture

Meetings are held on the  
3rd Thursday of September - May  
at 7 p.m. in-person at RCE

Next meeting  
September 21, 2023

Virtual Meeting Information  
<https://rutgers.zoom.us/my/smangia>

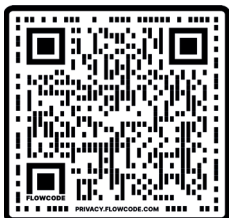
Meeting ID: 529 557 9817  
Passcode: Sal2020  
or call in at 1 (646) 558 - 8656

President: Keith MacIndoe

Commissioner Liaisons:

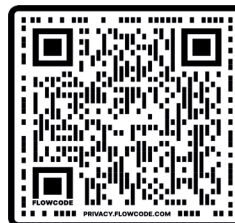
1. Victoria Groetsche-Lods
  2. Joseph Sileo
- Alt. John Capizola Jr.

### **Cultivating Cumberland Newsletter**



<https://go.rutgers.edu/lr39fky>

### **Plant & Pest Advisory**

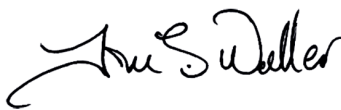


<https://go.rutgers.edu/8ookejzo>

Sincerely,



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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift  
Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances the compound may be sold under different trade names, which may vary as to label.

WE **R** HERE WHEN YOU NEED **US**



Have you visited the Cumberland County website for the  
Present and /or past issues of “Cultivating Cumberland”?

It's a great resource for information and dates...

<https://Cumberland.njaes.rutgers.edu/>

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