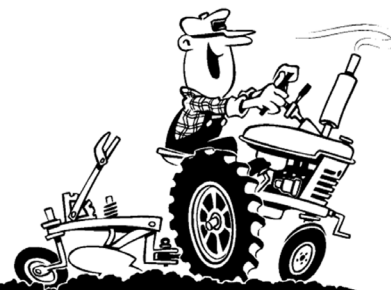


Cultivating Cumberland

March- 2022

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The office remains closed to the public.

2022-2023 Mid-Atlantic Commercial Vegetable Production Recommendations Guide

February 15, 2022, Andy Wyenandt

The 2022-2023 Mid-Atlantic Commercial Vegetable Production Recommendations is now available. Printed copies can be purchased from our office (\$25.00/copy) or free to download online. The new recommendations guide has been updated by 44 Extension professionals from the six states (NJ, PA, DE, MD, VA, and WV) in the mid-Atlantic region and includes up to date information on all aspects of vegetable production such as variety recommendations, pest management, and specific crop recommendations. The guide also includes a new Edamame section, expanded new tables for fungicide and insecticide use in the greenhouse, and up to date pesticide safety information. The complete guide (464 pages) or specific sections can be downloaded by clicking <https://njaes.rutgers.edu/pubs/publication.php?pid=E001>.

Upcoming Food Safety Trainings

If your farm falls under the Food Safety Modernization Act: Produce Safety Rule but you do not have a current staff member who has completed a Produce Safety Rule (PSA) approved FSMA training, there is one upcoming class that is a requirement of the Produce Safety Rule.

Not sure if your farm falls under the rule Food Safety Modernization Act (FSMA) visit <https://onfarmfoodsafety.rutgers.edu/food-safety-modernization-act/>

FSMA Produce Safety Rule, certificate training (last of the season)
March 9, 2022, 9:00 – 4:00 EST

Rutgers Cooperative Extension of Mercer County, in-person
1440 Parkside Avenue, Ewing, NJ 08638

The deadline to register is March 4, 2022

Register online at RutgersOnFarmFoodSafety.eventbrite.com

Attachments:

- Resources for NJ Pest Licensed Applicators
- Pest Scouting Guide
- Tea Webinar
- Grape Expectations
- 4-H Easter Flower Fundraiser

Tips in Preparation of Herbicide Shortages in 2022

February 1, 2022 Thierry Besancon & Lynn Sosnoskie

Many growers in the US have been focused on predicted herbicide shortages in the upcoming field season. While the primary concerns have surrounded glyphosate and glufosinate, there is increasing apprehension that active ingredients of importance to vegetable growers may also be affected. Although the supply change is dynamic, chemical stocks may become, and remain, tight at the local or regional level as growers try to fill gaps in their toolboxes. Heading into the new year, consider the following for the 2022 season.

1. Successful weed identification, regular scouting, and detailed field records are crucial for optimizing weed control success. The first step in developing a novel herbicide program is knowing what species are present and determining which combination of products will be the most effective (and affordable) at suppressing them. Not all active ingredients are equally useful against all species and careful consideration needs to be paid to each chemical's spectrum of control.
2. Familiarize yourself with chemical substitutes before applying them over many acres. Some switches may be intuitive (e.g. using Poast (sethoxydim) or Assure II (quizalofop) in place of clethodim where allowed) while others may be more complicated (e.g. using a tank-mixture in place of a single product). In addition to knowing a novel product's target species, become acquainted with a new herbicide's labeled rate structure and spray volume, use patterns (e.g. application timing), environmental limitations (e.g. temperature restrictions), adjuvant requirements, and potential interactions with tank-mix partners. Not all chemicals are compatible with each other, and antagonism can reduce weed control efficacy while enhancing crop injury concerns. Contact your Extension Specialists if you have any doubt regarding physical compatibility and efficacy of herbicide mixtures. Herbicide damage may be observed across seasons so pay attention to rotation restrictions. Some active ingredients may already be part of registered pre-mixes in certain crops (i.e. bentazon, which is the active ingredient in Basagran, is also part of Varisto).
3. Soil-applied, preemergence herbicides can be useful tools for suppressing weeds that emerge with the crop; these plants are the most injurious as early season competitors are very likely to reduce yields. Like postemergence products, soil-applied herbicides must be carefully selected to balance crop safety with weed control needs. Pay attention to rate requirements according to soil type, as this can influence both efficacy and injury. Pre-emergence herbicides need to be moved into the soil solution (either physically or via rainfall or irrigation) where they are taken up by emerging weed seedlings; delays in incorporation can reduce overall performance if some weeds continue to germinate and emerge under low soil moisture conditions. Delays in herbicide activation may facilitate the degradation of some products susceptible to breakdown in sunlight (i.e. photolysis). When possible, use overlapping residual products to suppress weed emergence throughout the season. Some active ingredients (e.g. oxyfluorfen (Goaltender)) may have both preemergence and postemergence activity.

4. Timing matters. Postemergence weed control should be undertaken when weeds are small and succulent. Herbicide labels will have specific recommendations regarding the optimal size for treatment. Because many foliar-applied herbicides can also damage crops, always follow label guidance to reduce risk of injury. For instance, in 2021 New York research trials, applications of postemergence herbicides made before the first trifoliolate leaf stage in snap beans resulted in up to 20% yield loss because of crop stunting.
5. Optimize herbicide application rate for postemergence (i.e. foliar) applications. Target using the lowest effective herbicide rate to stretch your herbicide supply. For example, instead of using 32 or 44 oz/acre of a Roundup brand product, consider using the standard rate on the label such as 22 oz/acre for Roundup PowerMax. Again, timing of application with regards to weed size will be critical to optimize your herbicide supply. The smaller the weeds, the less herbicide you will have to apply to control it! Therefore, frequent scouting as highlighted in point one will be very important to optimize your herbicide application and stretch your herbicide supply.
6. Don't skimp on adjuvants. If herbicides are going to be in short supply, then there may be fewer shots to control weeds. If there are fewer shots available, make every shot count as much as possible. Follow label recommendations regarding the inclusion of water conditioners, surfactants, etc..., to maximize product efficacy. Refer to point number two about potential compatibility concerns when tank-mix partners are involved.
7. Consider non-chemical weed control strategies when and where appropriate. This includes hand weeding, cultivation, altering planting dates to avoid particularly troublesome species, and using stale seedbed practices. Like herbicides, physical and cultural practices are not always effective against all species. While cultivation can control many weed seedlings, particularly at the white-thread stage, soil disturbance is less effective against well-developed plants. In the case of some perennials (for example, field bindweed or Canada thistle), cultivation events can break up and disperse root fragments within and across fields, facilitating dispersal. Ultimately, plan for hand-weeding escapes prior to the weeds setting seed as this will help reducing the weed seedbank for future growing seasons.

2022 could be a difficult year if many crop production and protection chemicals are limited. Herbicide shortages could impact weed control success in the coming growing season...and beyond. Weeds that are not controlled in 2022 will set seed that will cause problems in the future. Planning now can help with weed management in both the short and long term.

Hillary Barile New Jersey's 2021 Outstanding Young Farmer

Jeff Wolfe, New Jersey Department of Agriculture

Hillary Barile, of Cumberland County, was selected as a national winner at the combined 2021 and 2022 National Outstanding Young Farmers Awards Congress held last week in Hilton Head, S.C.

Barile, with the support of her husband Jeffrey, owns and operates Rabbit Hill Farms in Shiloh along with her father Abe Bakker, brother Blair Bakker, and her uncle Robert Reed. She was one of four national winners selected from a group of eight finalists for the 2021 award based on their progress in an agricultural career, extent of soil and water conservation practices and contributions to the well-being of the community, state, and nation.

"It is very humbling to be selected as there were so many other wonderful candidates," Hillary Barile said. "We understand the work it takes to be successful in agriculture and it is truly special to be recognized in this way."

The winners received a savings bond from corporate sponsor John Deere and the opportunity to travel to Washington, D.C., during National Ag Week in 2022.

"We are very proud of Hillary for being an outstanding representative of New Jersey on the national agricultural scene," NJDA Secretary of Agriculture Douglas Fisher said. "Hillary's ability to create a new vision for her family farm is a credit to her and an excellent example of the ingenuity and innovation that so many farmers in our state possess."

Hillary Barile grew up on Rabbit Hill Farms that was originally located in Central Jersey. After graduating from Dartmouth and working in the agricultural field, she decided to return to the family farm in 2010. The farm relocated to Shiloh and after evaluating its viability as primarily growing potatoes, it switched to growing barley for malt and building New Jersey's first craft malthouse. It was a decision that didn't come easily, given some financial risk and the family tradition, but one Barile is glad they made.

"The accelerated growth in the craft beer and spirits industry nationwide was hard to ignore and in 2012, New Jersey made some changes to support growth in this industry," Barile said. "Rabbit Hill briefly considered starting an on-farm brewery to capitalize on the consumer interest in craft beer and educate consumers that beer is an agricultural product. However, as I researched what was required to make beer on the farm with our own ingredients, I learned more about the main ingredients in beer. Malt, an ingredient in beer and spirits, is predominately made from certain varieties of barley. The quest to make malt for ourselves led me to conclude that there is a market for locally grown and craft malted barley in our state." Barile says the switchover wasn't easy at first. Even with extensive research, there was no model to know which grains to grow that would be good for malt. But after some experimenting, they found the right combination.

“We were unsure if we would even be able to produce the high-quality grains that we needed to use in the malthouse as there was very little information available regarding their agronomics in this region,” Barile said. “It has taken years of trial and error to begin to produce these grains reliably. With the knowledge that I have gained over the last few years, and the clarity of hindsight, I can easily say now that we made the correct decision.”

Jeffrey Barile has his own separate career and Hillary points out he is very supportive of the farm’s endeavors.

“While he did not grow up on a farm and does not work on the farm, he has been incredibly supportive of my decision to return to the farm as well as the decision to dramatically change the way that the farm operates,” she said. “These decisions have significantly impacted our family life and income as we are only five years into a huge reinvention of the business.”

The Outstanding Young Farmer (OYF) program is the oldest farmer recognition program in the United States, with the first group of national winners selected in 1955. The goals of the OYF program are to foster better urban-rural relations through the understanding of farmers’ challenges, as well as the appreciation of their contributions and achievements; to bring about a greater interest in farmers/ranchers; and to help build an urban awareness of the farmers’ importance and impact on America’s economy.

The OYF program encourages a greater interest in agriculture and recognizes local citizens’ contributions. The National OYF program is sponsored by Deere & Company, administered by the Outstanding Farmers of America Fraternity, and supported by the National Association of County Agricultural Agents, the National Association of Conservation Districts, and the US Junior Chamber of Commerce.

The 2021 National Outstanding Young Farmer (NOYF) Congress was postponed and was combined with the 2022 NOYF Congress, where winners from both years were announced.

For more information on the state’s Outstanding Young Farmer program, visit: www.nj.gov/agriculture/about/sba/cover.html or contact Marketing and Development Division Director Joe Atchison at joe.atchison@ag.nj.gov.

NRCS New Jersey Announces Conservation Stewardship Program Signup

SOMERSET, N.J., Feb. 18, 2022 – The USDA's Natural Resources Conservation Service (NRCS) in New Jersey is now accepting applications from agricultural producers and forest landowners for the Conservation Stewardship Program (CSP). Agricultural producers and forest landowners looking to build on conservation efforts while strengthening their operation can apply for technical and financial assistance through CSP.

While NRCS accepts CSP applications year-round, New Jersey producers and landowners should apply by March 31, 2022, to be considered for funding in the current cycle.

CSP is for working lands including cropland, pastureland, and nonindustrial private forest land. Participating farmers will further address priority resource concerns related to soil quality, water quality, air quality, and plant health. On-farm benefits include increased crop yields, decreased inputs, wildlife population improvements, and better resilience to weather variables. For producers who are already taking steps to improve the condition of their land, CSP can help them find ways to meet their goals.

Special provisions are available for historically underserved producers, which include those considered beginning, socially disadvantaged and limited resource as well as military veterans.

Find eligible practices in New Jersey and practice payment amounts at <https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/?cid=nrcseprd1328252>. Payment rates for conservation practices are reviewed and set each fiscal year for the state.

To apply for CSP, contact NRCS at the Vineland Service Center, 1318 South Main Rd., Bldg. 5a, Vineland, NJ 08360, Telephone (856) 205-1225 Ext 3. Service Center staff continue to work with agricultural producers via phone, email, and other digital tools. Because of the pandemic, some USDA Service Centers are open to limited visitors. Contact your Service Center to set up an in-person or phone appointment.

Robert Andrzejczak has been appointed FSA State Executive Director for New Jersey

Born and raised in Cape May, New Jersey, Robert Andrzejczak joined the United States Army as an Infantryman in 2005. On his second deployment to Iraq, he was severely wounded when his convoy was attacked. After two years of recovering from his injuries at Walter Reed Army Medical Center in Washington D.C., Andrzejczak returned home to New Jersey. He was active in multiple community-based service organizations before being appointed to serve in the New Jersey General Assembly in 2012. While in the Assembly, Andrzejczak served as Chairman of the Agriculture and Natural Resources Committee. He was appointed to the New Jersey Senate in 2018 and served until 2019.

Changes to the lease agreement on State Lands

Frank Minch

Anyone who is leasing land from the State of New Jersey should have gotten a new agreement related to pesticide use. Secretary of Agriculture Dog Fisher sent the following message the week of February 7th. If you have any questions contact Frank Minch at his email listed at the end of the message.

A message from Secretary Fisher:

For those who have been leasing state lands for agricultural purposes, Secretary Fisher has been assured that you will be receiving updated agreements next week from the NJ DEP. Please be sure look for that communication.

The following was received from the NJ DEP today:

Please be advised that the Department (NJDEP) has received clarification from the State House Commission regarding the use of glyphosate and pesticides or coated seeds that contain neonicotinoids on the Premises.

The following provision will be removed from the Lease Agreement:

“Beginning January 1, 2023, Tenant shall not use pesticides or coated seeds that contain neonicotinoids on the Premises. The use of glyphosate by Tenant may also be prohibited on the Premises pending clarification from the State House Commission (“Commission”). Tenant shall be permitted to use glyphosate on the Premises, in accordance with the label instructions, until such time that the Department receives further clarification from the Commission. The Department shall provide Tenant with written notice of any further changes or clarifications made to this Lease Agreement by the Commission.”

The following provision will be inserted into the Lease Agreement:

“Tenant shall comply with the applicable provisions of A2070/S1016 in Tenant’s use and possession of the Premises.” These revisions will be made to all Lease Agreements and the revised Agreements will be sent out next week for Tenant signature. All Tenants who have sent back a signed Agreement will be required to re-sign the new Agreement.

Questions can be sent to at frank.minch@ag.nj.gov

Highly Pathogenic Avian Influenza Confirmed in Indiana

USDA APHIS

WASHINGTON — The United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) has confirmed the presence of highly pathogenic avian influenza (HPAI) in a commercial turkey flock in Dubois County, Indiana. This is the first confirmed case of HPAI in commercial poultry in the United States since 2020.

Avian influenza does not present an immediate public health concern. No human cases of these avian influenza viruses have been detected in the United States. As a reminder, the proper handling and cooking of poultry and eggs to an internal temperature of 165 °F kills bacteria and viruses.

Samples from the affected flock, which experienced increased mortality, were tested at the Indiana Animal Disease Diagnostic Laboratory at Purdue University, part of the National Animal Health Laboratory Network, and confirmed at the APHIS National Veterinary Services Laboratories (NVSL) in Ames, Iowa. Virus isolation is ongoing.

APHIS is working closely with the Indiana Board of Animal Health on a joint incident response. State officials quarantined the affected premises, and birds on the property were depopulated to prevent the spread of the disease. Birds from the flock will not enter the food system.

As part of existing avian influenza response plans, Federal and State partners are working jointly on additional surveillance and testing in the nearby area. The United States has the strongest AI surveillance program in the world, and USDA is working with its partners to actively look for the disease in commercial poultry operations, live bird markets and in migratory wild bird populations.

Anyone involved with poultry production from the small backyard to the large commercial producer should review their biosecurity activities to assure the health of their birds. APHIS has materials about biosecurity, including videos, checklists, and a toolkit available at <https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/defend-the-flock-program/df-resources/df-resources>.

USDA will report this finding to the World Organisation for Animal Health (OIE) as well as international trading partners. USDA also continues to communicate with trading partners to encourage adherence to OIE standards and minimize trade impacts. OIE trade guidelines call on countries to base trade restrictions on sound science and, whenever possible, limit restrictions to those animals and animal products within a defined region that pose a risk of spreading disease of concern.

In addition to practicing good biosecurity, all bird owners should prevent contact between their birds and wild birds and report sick birds or unusual bird deaths to State/Federal officials, either through their state veterinarian or through USDA's toll-free number at 1-866-536-7593. Additional information on biosecurity for backyard flocks can be found at <http://healthybirds.aphis.usda.gov>.

Additional background.

Avian influenza (AI) is caused by an influenza type A virus which can infect poultry (such as chickens, turkeys, pheasants, quail, domestic ducks, geese, and guinea fowl) and is carried by free flying waterfowl such as ducks, geese and shorebirds. AI viruses are classified by a combination of two groups of proteins: hemagglutinin or "H" proteins, of which there are 16 (H1–H16), and neuraminidase or "N"

proteins, of which there are 9 (N1–N9). Many different combinations of “H” and “N” proteins are possible. Each combination is considered a different subtype and can be further broken down into different strains which circulate within flyways/geographic regions. All viruses are further classified by their pathogenicity (low or high)—the ability of a particular virus strain to produce disease in domestic poultry.

Poultry Alert: Review, Implement Biosecurity Measures

February 4, 2022 Melissa Bravo

NJ PRODUCERS: WHERE TO REPORT SICK BIRDS OR UNEXPLAINED DEATHS

All poultry owners, whether commercial producers or backyard enthusiasts, need to report sick or unexplained bird deaths to State/Federal officials immediately. For small flocks, this can include deaths of one bird per day for two days in a row. For more information or to report sick or dead poultry contact: New Jersey Department of Agriculture, Division of Animal Health 609-671-6400 or state.veterinarian@ag.nj.gov -OR- USDA APHIS Veterinary Services NJ Area Office 609-259-5260 or toll-free at 1-866-536-7593. To Report Sick/Dead Wild Birds, Wild Waterfowl, Raptors, Shorebirds or Gulls: USDA APHIS Wildlife Services, 908-735-5654 ext. 2 or call NJDEP Hotline, toll free, 877-WARN-DEP (877-927-6337). Check the State website for current updates regularly at:

https://www.nj.gov/agriculture/divisions/ah/diseases/avian_influenza.html#4

The NJ Dept. of Agriculture information on High Path Avian Influenza link is <https://www.nj.gov/agriculture/divisions/ah>

The NJ Dept Agriculture Diagnostic Laboratory information is at <https://nj.gov/agriculture/ahdl/>

Since this information was written APHIS has confirmed outbreak in South Carolina, Kentucky, Virginia, New York and Maine.

New Rutgers Fact Sheet

The following new fact sheet and bulletin are now available on NJAES Publications:

FS1340 Non-structural Carbohydrates and Equine Warm-season Grass Pastures
Written by: Jennifer Weinert-Nelson, Caitlin Dolan, and Carey Williams
find it online at <https://njaes.rutgers.edu/fs1340/>

E372 EPA's Worker Protection Standard Respiratory and Recordkeeping Requirements for Agricultural Employers of Pesticide Handlers (Rutgers NJAES). Hastings, P.
Note: This bulletin is a companion to Rutgers NJAES bulletin E358 Respiratory Protection for Occupational Users of Pesticides (Rutgers NJAES).
find it online at <https://njaes.rutgers.edu/pubs/publication.php?pid=e372>

Chlorpyrifos (Lorsban): Revocation of All Food Tolerances Effective February 28, 2022

February 4, 2022 by Pat Hastings

In August 2021, EPA released a final rule revoking all “tolerances” for chlorpyrifos, which establish an amount of a pesticide that is allowed on food. In addition, the agency issued a Notice of Intent to Cancel under the Federal Insecticide, Fungicide, and Rodenticide Act to cancel registered food uses of chlorpyrifos associated with the revoked tolerances. Read EPA’s press statement.

The rule set the revocation of ALL chlorpyrifos food tolerances to be at the end of 6 months of publication of the August 2021 rule (i.e., February 28, 2022). Any applications of chlorpyrifos made after that date will render any food so treated adulterated and unable to be distributed in interstate commerce.

Growers should NOT use chlorpyrifos after February 2022 on any food or feed crop that will be marketed in the United States because there will be no tolerance or exemption from a tolerance for the use of chlorpyrifos. If the residue exceeds the set tolerance, the crop may not be marketed or sold. It is subject to condemnation and seizure by federal or state regulatory agencies.

The tolerance rule issued on August 30, 2021, does NOT prohibit sale and distribution of registered pesticide products. However, sale and distribution of chlorpyrifos products labeled for use on food crops would be considered misbranded; therefore, it would be a violation of FIFRA to sell and distribute those products.

Non-agricultural, non-food uses of chlorpyrifos remain in the United States. EPA’s registration review of chlorpyrifos is due in 2022.

Broadband Connectivity Survey

Matthew E. Pisarski, AICP, PP

Broadband connectivity is crucial infrastructure in today's world, and Cumberland County along with The Authority of Cumberland County are actively working on an effort to both understand and address gaps in coverage. **We need your help with this!** Log onto www.countybroadband.info from your home or business wifi and complete the short survey. This survey will provide actual upload and download speeds for your home or business location. With this information Cumberland County will be able to better determine where future investment needs to be directed.

Beekeeping Classes

Bee-ginner's Beekeeping: The Basics of Apiculture

March 7-28, 2022 - SELF PACED ONLINE CLASS

OR

May 2-23, 2022 - SELF PACED ONLINE CLASS

Participants can complete the course content (which will take approximately 16-17 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.

<http://www.cpe.rutgers.edu/programs/beekeeping.html>

Sustainable Beekeeping

April 6, 2022 - 6:30 pm - 8 pm - LIVE IN ZOOM

OR

June 8, 2022 - 6:30 pm - 8 pm - LIVE IN ZOOM

In the US, beekeepers lose 30% - 40% of their hives each year. This webinar will discuss ways to maintain your beehives in a more sustainable way, minimizing losses through management, using local bee stocks (your own or a local beekeeper), and creating resource hives.

<http://www.cpe.rutgers.edu/programs/beekeeping.html>

New! The Ins and Outs of Treating Your Colony

April 13, 2022 - 6:30 pm - 8 pm - LIVE IN ZOOM

OR

June 15, 2022 - 6:30 pm - 8 pm - LIVE IN ZOOM

It is the goal of every beekeeper to maintain healthy, productive colonies. This can only be accomplished by reducing the frequency and prevalence of disease within beehives. It is important for beekeepers to be aware of, learn to identify, and effectively manage pests and diseases to maintain healthy colonies. This is particularly important because the health of one beekeeper's colony can impact another beekeeper's colony in the surrounding area. Review recommendations for detecting and treating colonies for parasites and pathogens in a sustainable way for the long-term health of your colonies.

<http://www.cpe.rutgers.edu/programs/beekeeping.html>

New! Take Note of Your Hive: Recordkeeping for Beekeepers

April 20, 2022 - 6:30 pm - 8 pm - LIVE IN ZOOM

OR

June 22, 2022 - 6:30 pm - 8 pm - LIVE IN ZOOM

While even experienced beekeepers can learn from hive notes, it is an even more important part of beekeeping for beginners. Good hive notes promote a better understanding of the dynamics of the hive. Beginning to keep proper beekeeping records (no mental notes!) is one means of assuredly improving your beekeeping success. This means fewer bee losses, more honey production, and better broods. We'll discuss the why, what, and how of beekeeping records. Then you can decide what's right for you.

<http://www.cpe.rutgers.edu/programs/beekeeping.html>

Find Recertification Courses for NJ Pesticide Applicators

To find recertification courses, applicators can access reports online at <https://www13.state.nj.us/DataMiner/>

Click on “**Search by Category**”

Select **Pesticide Control Program** and then hit Submit

Scroll to the bottom and select “**Recertification Courses Available**”

You can then **enter a date range** for classes available and **select a category** that you want to search

The screenshot shows the DEP DataMiner interface. At the top, there is a navigation bar with 'Home', 'Search', 'Contact', and 'Help'. Below this is a breadcrumb trail: 'Home > Search By Category > Pesticide Control Program > [Recertification Courses Available] > Report Criteria'. The main content area is titled 'Recertification Courses Available - Report Criteria' and contains the following instructions and form fields:

Search upcoming pesticide applicator recertification courses by date and subject area.

1) Enter Start Date (mm/dd/yy):

2) Enter End Date (mm/dd/yy):

3) Select subject area-use CTRL key to select more than one:

View Report by Pages

Pesticide Credits and Licenses

Ag Secretary of the State, February 18, 2022

It has come to our attention that a number of private pesticide licensees have not received their current licenses from the NJDEP Pesticide Bureau. Through a meeting that we have had with the NJDEP Pesticide Bureau staff, we have identified two primary areas that may need your particular attention to ensure your license remains active:

- 1) Not receiving nor submitting their invoices via the postal service through the mail. In this case, licensees can get their invoices online through the NJDEP pesticide website by submitting their invoices to NJDEP for processing when received, even if there is a \$0.00 (zero) dollar value.
- 2) Lack of credits through either Core or PP2, or a combination of both. There is a 5-year time period for all licensees to get enough credits for their license. Courses are available online for licensees to get credits. Once the coursework is completed online, it should take approximately two weeks for the unit to process the information to post on their website. Directions below explain how to locate and pay for invoices (which must be submitted back to the unit for processing, even if it is a \$0.00 [zero] dollar invoice).

Licensees can check on the number of credits they have acquired by going to the NJDEP pesticide webpage at www.pcpnj.org and following the directions. For any questions, go to www.pcpnj.org. Below are the directions necessary to look up invoice numbers and then use said numbers to pay for a license online.

Once again, we remind you paying your invoice online is a faster way to receive your license. All invoices, even if it's \$0.00 (zero) dollars need to be processed, otherwise your license will not be issued.

Directions to Locate an Invoice Number

1. Go to www.pcpnj.org
2. Scroll to the bottom of the page. Under heading About Us click on "Pesticides"
3. Scroll to the bottom of the page and "Click here to view Links."
4. Under the heading Online Payments and Reports Click on the link labelled "Invoice Numbers for Unpaid License Invoices"
5. Enter License number (make sure to capitalize any letters at the end of your license number) and other items
6. Click Submit

Directions to Pay for license online

1. Go to www.pcpnj.org
2. Scroll to the bottom of the page. Under heading About Us click on "Pesticides"
3. Scroll to the bottom of the page and "Click here to view Links."
4. Under the heading Online Payments and Reports, click on the link labelled "Pay For Your License Online"
5. Enter Invoice number (found on paper invoice, or previously located using our website using directions above)
6. Enter License number (make sure to capitalize any letters at the end of your license number)
7. Click Submit and follow prompts from there

2021 Phytophthora and Bacterial leaf spot bell pepper variety trial reports

Andy Wyenandt

Phytophthora blight caused by *Phytophthora capsici* is one of the most economically important diseases in pepper, tomato, and cucurbit production in New Jersey. The pathogen was first identified in a pepper field in southern New Jersey in 1971. Each year for the past three decades Rutgers has evaluated new bell pepper cultivars and breeding lines for their resistance to *P. capsici* in field trials at the Rutgers Agricultural Research and Extension Center (RAREC) near Bridgeton, New Jersey, and in some years, at research trials on farms near Vineland, NJ. The pathogen, an oomycete – ‘water mold’ is favored by warm weather and wet soils during the production season and can survive between seasons in the soil as oospores. Once found in a field, the pathogen can establish itself, and be very difficult to control even with the use of fungicides because of resistance development. Fortunately, in bell pepper, highly resistant or intermediate resistant cultivars to Phytophthora blight have been commercially-available for over 20 years now and have been used extensively by bell pepper growers throughout the state. Each year, Rutgers also evaluates each cultivar for their fruit quality characteristics (e.g., color, wall thickness, number of lobes, and development of ‘silvering’) to make sure they meet the needs of growers. Unfortunately, phytophthora resistant cultivars such as ‘Paladin’ which have been used extensively in southern New Jersey for the past 20 years appears to be breaking down. Because of increasing reports of bacterial leaf spot and copper resistance in recent years, bell peppers grown in NJ at some point will need to consider growing those cultivars with X10R resistance and phytophthora blight resistance. Importantly, for organic bell pepper growers, if you have not already done so, you should be evaluating these new lines to see if they meet your needs. The easiest way to mitigate both diseases are to start with genetic resistance. Below are the bell pepper variety and bacterial leaf spot reports for 2021.

View the final Phytophthora report by going to <https://plant-pest-advisory.rutgers.edu/wp-content/uploads/2022/02/Rutgers-Pepper-Phytophthora-Blight-Final-Report-2021.pdf>

View the final BLS report by visiting <https://plant-pest-advisory.rutgers.edu/wp-content/uploads/2022/02/Rutgers-Bacterial-Leaf-Spot-Final-Report-2021.pdf>

Calendar of Events

March 30-31

Florida International Agriculture Innovation Summit; Registration is free. Registration and more information at <https://www.fiba.io/florida-international-agriculture-innovation-summit/>. A full summit agenda, including panels, speakers, and special guests, will be available to see on their website.

July 30- August 3

ASHS 2022 Annual Conference; Hyatt; Chicago, IL; This conference is where the latest science and technology is showcased related to horticulture. Our mission is to bring together researchers, scientists, industry, academia, extension, government, and students to cultivate ideas and share new techniques relating to horticulture and plant sciences; More info at <https://ashs.org/page/GeneralConference>

August 1-5

2022 Perennial Plant Association National Symposium; Lancaster Marriott at Penn Square, 25 S. Queen St., Lancaster, PA. Contact the Perennial Plant Association at 888.440.3122 or visit perennialplant.org for more information.

August 29-30

International Carrot Conference; Mount Vernon, WA; For more information email dutoit@wsu.edu or snolan@agmgt.com or visit InternationalCarrots.org.

2022 Farmer Truck Certificate Applications

BY MAIL ONLY

Our office is closed to the public, but there are two ways to get your application for the 2022 farmer truck certificate.

Pickup Applications: You may pick up an application from the tote outside of our front door. No contact with employees or entrance to the building will be allowed.

Email for an Application: email KatieSi@co.cumberland.nj.us

How to complete your application:

1. Complete numbers 1 – 12
(Please ensure your applicant name and mailing address match your registration)
2. Sign on “Signature of Applicant” line
3. Complete items 13-77 by writing acreage of land use OR attach 2021 Farmland Assessment Application

What to include:

1. 2022 Application for Farmer Plate Certificates
2. If Applicable: Copy of your 2021 Farmland Assessment Application
3. Self-Addressed, stamped envelope (We will mail your certificate back to you in this envelope)

Mail to us:

Rutgers Cooperative Extension
Ag Dept.
291 Morton Avenue
Millville, NJ 08332



Regularly Scheduled Meetings

Pesticide Credit Exams

Testing is currently being held virtually because of the COVID pandemic.

Rutgers has taken over the pesticide exam program.

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

Cumberland County Agriculture Development Board

Virtual Meetings Information can be found on the Public Meeting Calendar on co.cumberland.nj.us

Meetings start at 7 p.m.

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

Cumberland County Board of Agriculture

Virtual Meeting Information
<https://rutgers.zoom.us/my/smangia>
Meeting ID: 529 557 9817
Passcode: Sal2020
or call in at 1 (646) 558 - 8656

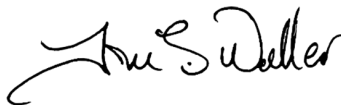
Meetings are held on the 3rd Thursday of each month at 7 p.m.

For more information call Keith MacIndoe, President at 856-207-7773

Sincerely,



Wesley L. Kline, Ph.D.
Cooperative Extension Agent
Vegetable Production and Food Safety
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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.

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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/>

Public Notification and Non-discrimination Statement

Rutgers Cooperative Extension is an equal opportunity program provider and employer. Contact your local Extension Office for information regarding special needs or accommodations. Contact the State Extension Director's Office if you have concerns related to discrimination, 848-932-3584.

Cooperative Extension of Cumberland County



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1. **Rutgers University New Jersey Agricultural Experiment Station (NJAES)**
Cooperative Extension website: <https://njaes.rutgers.edu/>. NJAES Fact Sheets and publications are available online and updated routinely at <https://njaes.rutgers.edu/pubs/>. The 2022 Mid-Atlantic Commercial Vegetable Recommendations E001 now published! Pesticide Sections of the Mid-Atlantic Veg Recs were wholly revised in 2020 and updated for 2022. The 2021 Rutgers New Jersey Commercial Tree Fruit Production Guide E002 Pesticide Safety Section was updated with the 2020 NJ regulation revisions.
2. **Rutgers University NJAES Plant & Pest Advisory:** <https://plant-pest-advisory.rutgers.edu/>. Timely seasonal updates focusing on insects, diseases, and weeds of importance to NJ Commercial Growers & Nursery/Landscape/Ornamental/Turf. **FREE**. Subscribe by email or RSS.
3. **Rutgers NJAES Pest Management Office:** (848) 932-9802. **ENROLL IN BLOG**.
 - a. **Pesticide Safety Education Program:** <https://pestmanagement.rutgers.edu/PAT/>. **GOOGLE "RUTGERS PSEP"**
 - Pesticide Applicator Certification & Licensing Requirements
 - Training Manuals *online ordering now available with delivery to your home or business*
 - Pesticide Applicator Certification Exam Access
 - Pesticide Applicator Recertification Training
 - Pesticide Record Keeping **NEW templates** (in Word, Excel, or pdf)
 - Pesticide Spill Report Cards

Worker Protection website & blog: <https://pestmanagement.rutgers.edu/worker-protection/>. Created for growers and their employees on the 2015 revised Worker Protection Standard. Rutgers "Quick Connect" for WPS videos for both handlers & workers in both English & Spanish. **FREE**.
4. **New Jersey Department of Environmental Protection:**
 - a. N.J.A.C. 7:30 State pesticide regulations were revised April 6, 2020. Govern the manufacture, distribution, and use of pesticides in New Jersey; see <https://www.nj.gov/dep/enforcement/pcp/pcp-regs.htm> Subchapter 8 Private Pesticide Applicator Certification & Licensing; Subchapter 9 Exposure Management; and Subchapter 12 Worker Protection (including revisions for parity with federal WPS).
 - b. **Licensing & Registration:** <https://www.state.nj.us/dep/enforcement/pcp/bpo-pesticide-links.htm> for current status of pesticide examinations and COVID recertification course policy exemption for 5-year recert credit period extended through Oct 31, 2022. Provides links to check if you need recertification credits for your 2022 applicator license renewal, as well as links to NJDEP-approved recertification courses.
 - c. **NJDEP DataMiner** web portal at <https://www.nj.gov/dep/enforcement/pcp/pcp-online.htm> provides online license fee payment and reports for applicators, operators, dealers, and businesses (e.g., recertification courses, license, or certification status); also lists of registered pesticides.
 - d. **NJDEP Worker Protection Unit** webpage at <https://www.state.nj.us/dep/enforcement/pcp/pcp-wps.htm>. Templates for Worker & Handler Training Rosters/Records; WPS Trainer Verification Form. For specific questions about NJDEP's implementation of the revised WPS, please contact Nancy Santiago, Supervisor of the Worker Protection Unit at 609-984-6568, or contact her by email at pcp@dep.nj.gov.
 - e. Search for **NJ pesticide registrations** at <http://www.kellysolutions.com/NJ/>.
 - f. NJDEP **General information:** 609-984-6507. **Spill report** (reportable spills): **1-877-WARNDEP**.
 - g. The **Pesticide Applicator Certification Exam Registration (PACER)** system is the NJDEP's approved third party exam administration system managed by the Rutgers NJAES Office of Continuing Professional Education (OCPE). This online exam application portal is located at <https://pacer.rutgers.edu>. Set up account and apply for exams 24/7. When you create an online account, you will have an online "Dashboard" to track your exam(s).

Payment for exams is required prior to approval; approval turnaround is approximately 48 hours. The fee to take the Private applicator exam is \$50 each; commercial applicator CORE and category exams are \$115 each. Payment by credit card, electronic checking, or Purchase Order.

Pesticide exams may now be taken online 24/7. Exams have a maximum time allotment of 1 hour 45 minutes. **OCPE contact is Jill Sullivan; pacer@njaes.rutgers.edu. Phone: 848-932-7443 or 848-932-9271 Option 7.** Fax: 732-932-4546. Hours of operation: Monday-Friday, 8 AM-4:30 PM.

Due to COVID, pesticide exams are only available to be taken online; but can be accessed 24/7. Exams are offered through Rutgers University online learning management system "Canvas". Once your exam application is approved, you will receive a Canvas Course invitation with detailed instructions from Rutgers Canvas from email address notifications@instructure.com; check spam for the invitation if have not received within 48 hours. If your exam application is denied you will receive an email from OCPE with the reason and steps to rectify the issue.

Exams taken in Canvas are proctored using artificial intelligence software "Proctorio" which uses facial detection. All exam takers must install Proctorio on their computers to be allowed to take the online exam. Proctorio will guide you through the "Pre-check Steps" and the "Systems Diagnostic Tool". You will show a valid photo-identification, such as a driver's license to the screen and perform a room check as directed at the time of examination. You must be onscreen for the entire exam; no breaks are allowed.

The system requires use/installation of the Google Chrome browser in advance. See https://pacer.rutgers.edu/docs/online/proctorio_requirements.pdf for detailed software and hardware requirements [computer (no mobile devices); camera/webcam; microphone (internal or USB); and reliable internet connection with at least a 1.0 Mbps upload speed].

5. **New Jersey Pesticide Information and Education System.** The designated regional Poison Control Center with a national number: (1-800-poison1)/ (1-800-222-1222). Website: <https://www.njpies.org/>.
6. **Pesticide Safety Data Sheets (SDS) for Revised Worker Protection Standard:** CDMS at <http://www.cdms.net/LabelsSDS/home>; and Agrian: <https://home.agrian.com/>. See also pesticide manufacturer websites under #7 below.
7. **National Pesticide Information Center (NPIC)** provides general and technical information about pesticides; see home page at <http://npic.orst.edu/index.html>. See also their comprehensive list of pesticide manufacturers to request specific pesticide product information: <http://ace.orst.edu/info/npic/manuf.htm>.
8. **Pesticide Educational Resources Collaborative (PERC)** - develops or coordinates the development of pesticide education resources with online access at <http://pesticideresources.org/index.html>. Houses both EPA-approved and non-approved resources. See #3 Rutgers PSEP for EPA-approved "Quick Connect" WPS training videos.
9. **National Pesticides Safety Education Center (NPSEC)** - <https://npsecstore.com/pages/perc-page>. Online store for pesticide publications including EPA 2015 Revised WPS manuals, DVDs, thumb drives, bundles, and laminated Pesticide Safety Information posters for the Central Posting Area. Multi-lingual resources.
10. **EPA Pesticides Homepage** at <https://www.epa.gov/pesticides>. REVISED EPA Pesticide Poisoning Handbook 'Recognition and Management of Pesticide Poisonings 6th Edition' downloadable from <https://www.epa.gov/pesticide-worker-safety/recognition-and-management-pesticide-poisonings>. Free copies of the manual (EPA publication number 735K13001) are available from the National <https://www.epa.gov/nscep>.
11. **EPA Office of Pesticide Programs** 'Pesticide Chemical Search' webpage for conventional, antimicrobial, and biopesticide active ingredients; see <https://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>. Has label product label search function <http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1>.



The Fifth Annual **National Pesticide Safety Education Month** is February 2022. The purpose of National Pesticide Safety Education Month is to reinforce core principles of safe pesticide use with many audiences and raise awareness of and support for the land-grant university Pesticide Safety Education Programs (PSEPs).



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Beta-version 2022
Contact: twaller@njaes.Rutgers.edu

Nursery & Landscape Pest Scouting Scouting with growing degree-days



Rutgers Green Industry Working Group

Contact: Timothy Waller, Ph.D.

twaller@njaes.Rutgers.edu

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Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and Boards of County Commissioners. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

Nursery and Landscape Pest Scouting Guide

~beta-version 2022~

Timing is everything in pest management! You must obtain your local growing degree-day accumulation values to use this pest scouting guide. Degree-day models allow us to predict when to scout for pests and when to target vulnerable life stages of pest development (egg hatch, adult emergence, crawler activity, adult flight). Growing degree-days (GDD₅₀) refer to the accumulation of heating units, which are the average air temperature over a 24h period minus the minimum temperature threshold. A ‘growing’ degree-day, means the **min. (or base) temperature threshold is 50°F**, whereas the **max. temperature threshold is most often set to 95°F**. Growing degree-days are not exact and should be viewed as *ranges*, i.e. begin scouting prior to GDD₅₀ expectations for any given pest. Blind pesticide applications, without ground-truthing the pest’s development stage, may not deliver desired outcomes in terms of control or ecological impacts on beneficials or wildlife. Please alert twaller@njaes.rutgers.edu if pest observations differ from those listed here.

Approximate 2021 Growing Degree-days as reference - Differ from region to region, year to year													
Region	Location	1-Jan	1-Feb	1-Mar	1-Apr	1-May	1-Jun	1-Jul	1-Aug	1-Sep	1-Oct	1-Nov	1-Dec
Southern	Upper Deerfield (NJ50)	0	0	0	75	229	591	1294	2100	2937	3495	3721	3725
Central	Howell / Freehold (NJ10)	0	0	0	67	153	440	1090	1838	2622	3134	3316	3316
Northern – West	High Point (NJ59)	0	0	0	21	92	353	910	1519	2195	2582	2649	2649
Northern – Metro	Oakland (D6302)	0	0	0	45	160	488	1140	1867	2621	3100	3207	3207

Compiled using USPEST.ORG (Base 50, Degree-day calculator(general purpose), Simple average/growing dds (min. 50F - Max. 95F))

Pest Scouting – Growing Degree-day Ranges						0 – 25 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Many	Aphids	<i>Aphidoidea</i>	7	120	2	Spring control of overwintering stage
Conifer	Conifer rust mites	<i>Eriophyidae</i>	7	22	4	Overwintering eggs hatch
Deciduous, Yew	Cottony camellia / taxus scale	<i>Pulvinaria floccifera</i>	7	91	5	Spring control of overwintering stage
Conifer	Elongate hemlock scale	<i>Fiorinia externa</i>	7	120	2	Spring control of overwintering stage
Pomes, Stone fruit	European red mite	<i>Panonychus ulmi</i>	7	58	2	1st adults active
Oaks	Golden oak scale	<i>Asterolecanium variolosum</i>	7	121	5	Spring control of overwintering stage
Oaks	Kermes oak scales	<i>Kermes spp.</i>	7	91	2	Spring control of overwintering stage
Deciduous	Oystershell scale	<i>Lepidosaphes ulmi</i>	7	91	2	Spring control of overwintering stage
Conifer	Pales weevil	<i>Hylobius pales</i>	7	121	RU	Overwintering adults become active / prevent egg laying
Many	Southern red mite	<i>Oligonychus ilicis</i>	7	91	5	Overwintering eggs hatch
Conifer	Spruce spider mite	<i>Oligonychus ununguis</i>	7	121	RU	Overwintering eggs hatch
Conifer	Taxus mealybug	<i>Dysmicoccus wistariae</i>	7	91	2	Spring control of overwintering stage
Conifer	White pine weevil	<i>Pissodes strobi</i>	7	58	RU	Overwintering adults become active / prevent egg laying
Magnoliaceae	Tuliptree scale	<i>Toumeyella liriodendri</i>	12	121	2	Spring control of overwintering stage
Rhododendron, Azalea	Azalea lacebug	<i>Stephanitis pyrioides</i>	18	372	RU	Spring control of overwintering stage
Conifer	Juniper scale	<i>Carulaspis juniperi</i>	22	148	2	Spring control of overwintering stage
Magnoliaceae	Magnolia scale	<i>Neolecanium cornuparvum</i>	22	91	2	Spring control of overwintering stage
Conifer	Pine bark adelgid	<i>Pineus strobi</i>	22	58	2	Spring control of overwintering stage
Conifer	Spruce bud scale	<i>Physokermes piceae</i>	22	120	2	Spring control of overwintering stage
White and Scotch Pine	White pine aphid	<i>Cinara strobi</i>	22	91	RU	Spring control of overwintering stage

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See final page for additional resources, including how to obtain your local degree-days

Pest Scouting – Growing Degree-day Ranges						25 – 150 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	25	120	3	Spring control of overwintering stage
Conifer	Eastern spruce gall adelgid	<i>Adelges abietis</i>	25	100	3	spring control of overwintering stage
Conifer	Northern pine weevil	<i>Pissodes approximatus</i>	25	100	4	1st adults active
Conifer	White pine weevil	<i>Pissodes strobi</i>	25	220	4	1st adults active
Conifer	Zimmerman pine moth	<i>Dioryctria zimmermani</i>	25	100	3	1st larvae
Many, evergreen	Euonymus scale	<i>Unaspis euonymi</i>	35	120	2	Spring control of overwintering stage
Shade trees	European fruit lecanium	<i>Parthenolecanium corni</i>	35	145	2	Spring control of overwintering stage
Conifer	European pine sawfly	<i>Neodiprion sertifer</i>	35	145	1	Hatched larvae
Conifer	Fletcher scale	<i>Parthenolecanium fletcheri</i>	35	148	2	Spring control of overwintering stage
Conifer	European pine shoot moth / borer	<i>Rhyacionia buoiana</i>	50	220	4	1st larvae active
Honeylocust	Honeylocust plant bug	<i>Diaphnocoris chlorionis</i>	58	246	2	Nymphs / adults active
Maples	Maple bladder gall mite	<i>Vasates quadripedes</i>	58	148	2	Spring control of overwintering stage
Conifer	Pine bark adelgid	<i>Pineus strobi</i>	58	618	2	Spring control of overwintering stage
Conifer	Pine tortoise scale	<i>Toumeyella parvicornis</i>	58	148	2	Crawler activity
Conifer	Balsam twig aphid	<i>Mindarus abietinus</i>	60	100	4	Egg hatch
Many	Southern red mite	<i>Oligonychus ilicis</i>	69	157	RU	Spring hatch
Conifer	Eastern pine shoot borer	<i>Eucosma gloriola</i>	75	200	4	1st adults active
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	90	180	4	1st adults active - Douglas fir
Malus, Prunus, many	Eastern tent caterpillar	<i>Malacosoma americanum</i>	90	190	2	Larvae treatment before tents apparent
Many	Gypsy moth	<i>Lymantria dispar</i>	90	448	RU	Larvae treatment (early instars)
Conifer	Balsam twig aphid	<i>Mindarus abietinus</i>	100	150	4	Stem mothers present (control target)
Conifer	European pine sawfly	<i>Neodiprion sertifer</i>	100	195	4	1st larvae active
Conifer	Pine engraver (Ips bark beetle)	<i>Ips spp.</i>	100	150	4	1st adults active
Pieris	Andromeda lace bug	<i>Stephanitis takeyai</i>	115	279	RU	Nymphs (1st generation)
Azalea	Azalea lace bug	<i>Stephanitis pyrioides</i>	118	372	RU	Nymphs (1st generation)
Conifer	Larch casebearer	<i>Coleophora laricella</i>	120	150	4	Egg hatch
Elm, Service berry	Woolly elm aphid	<i>Eriosoma americana</i>	121	246	2 (6)	Control target
Birch	Birch leafminer	<i>Fenusa pusilla</i>	123	290	RU	Adults - egg laying
Many	Gypsy moth	<i>Lymantria dispar</i>	145	200	4	Egg hatch, 1st larvae
Holly	Holly leaf miner	<i>Phytomyza ilicis</i>	147	265	RU	Adults - egg laying
Yews, Rhododendrons, many	Black Vine Weevil	<i>Otiorhynchus sulcatus</i>	148	400	2	Pupation / Adult emergence
Many	Cankerworms, inchworms, loopers	(many)	148	290	2	Larvae treatment
Dogwood, many	Dogwood Borer	<i>Synanthedon scitula</i>	148	700	2	Adult activity
Lilac, ash, privet, many	Lilac / Ash Borer	<i>Podosesia syringae</i>	148	299	2	Adult flight

Pest Scouting – Growing Degree-day Ranges						150 – 250 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Conifer	Balsam gall midge	<i>Paradiplosis tumifex</i>	150	300	4	Adults laying eggs
Conifer	Hemlock Woolly Adelgid	<i>Adelges tsugae</i>	150	150	RU	Eggs and 10% hatch
Conifer	Spruce needleminer	<i>Endothenia albolineana</i>	150	200	4	1st larvae active
Conifer	Spruce spider mite	<i>Oligonychus ununguis</i>	150	175	4	1st egg hatch
Conifer	Spruce spider mite	<i>Oligonychus ununguis</i>	150	175	4	1st egg hatch
Witchhazel, River birch	Spiny witchhazel gall aphid	<i>Hamamelistes spinosus</i>	171	-	6	Control target
Birch	Birch Leafminer	<i>Fenusa pusilla</i>	175	215	4	1st adults active
Birch	Birch leafminer	<i>Fenusa pusilla</i>	190	290	RU	Larvae (1st generation)
Conifer	Spruce spider mite	<i>Oligonychus ununguis</i>	190	363	RU	Immatures/Adults
Holly	*Native holly leafminer	<i>Phytomyza ilicicola</i>	192	298	2	Egg hatch
Andromeda	Andromeda lacebug	<i>Stephanitis takeyai</i>	192	303	RU	Adults
Holly	Holly leafminer	<i>Phytomyza ilicis</i>	192	290	RU	Egg hatch
Honeylocust	Honeylocust pod gall midge	<i>Dasineura gleditchiae</i>	192	229	RU	Larvae
Willows, Cottonwood, Poplar	Imported willow leaf beetle	<i>Plagioderia versicolora</i>	192	448	RU	Larvae/Adults
Larch	Larch sawfly	<i>Pristophora erichsonii</i>	192	299	2	Typical treatment window
Privet	Privet thrips	<i>Dendrothrips ornatus</i>	192	618	2	Typical treatment window
Rhododendron	Rhododendron borer	<i>Synanthedon rhododendri</i>	192	298	2	Typical treatment window
Rhododendron	Rhododendron gall midge	<i>Clinodiplosis rhododendri</i>	192	363	RU	Larvae
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	200	310	4	1st galls visible - Spruce
Conifer	Douglas fir needle midge	<i>Contarinia pseudotsugae</i>	200	400	3	Adults emerge from soil
Lilac, ash, privet, many	Lilac / Ash Borer	<i>Podosesia syringae</i>	200	299	RU	Adults - 1st Treatment
Spruce	Spruce budworm	<i>Choristoneura fumiferana</i>	200	300	5	Larvae
Elm	Elm leafminer	<i>Fenusa ulmi</i>	215	240	5	Adult emergence
Wild and cultivated roses	Roseslug sawfly	<i>Endelomyia aethiops</i>	230	-	6	Egg hatch / early instars
Deciduous, many	Hawthorn lacebug	<i>Corythucha cydoniae</i>	239	363	RU	Nymphs/Adults
Many	Redheaded flea beetle	<i>Systema frontalis</i>	242	600	Unv. Del	First control target - egg hatch / larval activity
Prunus	American plum borer	<i>Euzophera semifuneralis</i>	245	440	5	Adult flight, egg laying
Conifer	Arborvitae leafminer	<i>Argyresthia thuiella</i>	245	360	RU	Larvae Treatments (1st generation)
Boxwood	Boxwood mites	<i>Eurytetranychus buxi</i>	245	600	RU	All Stages
Holly	Holly leafminer	<i>Phytomyza ilicis</i>	246	448	RU	Larvae Treatment
Lilac	Lilac leafminer	<i>Caloptilia syringella</i>	246	363	5	Larvae Treatments
Conifer	Pine sawflies (Red-headed)	<i>Neodiprion lecontei</i>	246	1388	RU	Larvae (1st generation)
Yew	Taxus mealybug	<i>Dysmicoccus wistariae</i>	246	618	RU	Adults/Crawlers
Boxwood	Boxwood leafminer	<i>Monarthropalpusi flavus</i>	249	-	6	Adult emergence

Pest Scouting – Growing Degree-day Ranges						250 – 448 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Conifer	Eastern spruce gall adelgid	<i>Adelges abietis</i>	250	310	5	egg hatch, galls begin forming (not a control target)
Many	Spotted Lantern Fly	<i>Lycorma delicatula</i>	250	1000	PA Dept. Ag	1st-4th Instar (nymphs) - control target
Birch	Birch Leafminer	<i>Fenusa pusilla</i>	275	375	4	Adults laying eggs
Boxwood	Boxwood Psyllid	<i>Cacopsylla busi</i>	290	440	RU	Nymphs
Oaks	Kermes oak scale	<i>Allokermes spp.</i>	298	912	5	Typical treatment window
Locust	Locust leafminer	<i>Odontota dorsalis</i>	298	533	5	Typical treatment window
Conifer	Pine eriophyid mites	<i>Eriophyidae</i>	298	533	5	Typical treatment window
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	298	448	RU	Crawlers (1st generation) - control target
Privet	Privet Rust Mites	<i>Aculus ligustri</i>	298	802	RU	All stages
Malus	Redbanded leafroller	<i>Argyrotaenia velutinana</i>	298	618	5	Typical treatment window
Conifer	Pine root collar weevil	<i>Hylobius radicis</i>	300	350	4	1st adults active
Conifer	Turpentine beetle	<i>Dendroctonus terebrans</i>	300	350	4	Parent beetles colonizing brood material
Spirea	Spirea aphid	<i>Aphis spiraecola</i>	326	-	6	Adults/nymphs
Rhododendron	Azalea Lacebug	<i>Stephanitis pyrioides</i>	350	646	RU	Adults (1st generation)
Dogwood, apple, pecan, elm, hickory, willow	Dogwood borer	<i>Synanthedon scitula</i>	350	850	4	adults, eggs, caterpillars
Conifer	Hemlock Woolly Adelgid	<i>Adelges tsugae</i>	350	350	RU	Eggs and 50% hatch
Malus, Prunus, many	Lesser peach tree borer	<i>Synanthedon pictipes</i>	350	375	4	Adult flight, egg laying
Conifer	Elongate Hemlock Scale	<i>Fiorinia externa</i>	360	700	RU	Crawlers (1st generation)
Elm	Elm Leaf Beetle	<i>Xanthogaleruca luteola</i>	363	530	RU	Larvae treatment (1st generation)
Conifer	Larch casebearer	<i>Coleophora laricella</i>	363	618	2,4	Nymphs active - typical treatment window
Many	Oystershell Scale	<i>Lepidosaphes ulmi</i>	363	707	RU	Crawlers
Walnut	Walnut blister mite	<i>Eriophyes erinea</i>	363	707	5	Typical treatment window
Beech	Woolly beech aphids	<i>Grylloprociphilus imbricator</i> & <i>Phyllaphis fagi</i>	363	7070	5	Typical treatment window
Yews, Rhododendrons, many	Black Vine Weevil	<i>Otiorhynchus sulcatus</i>	400	2800	RU	Adults treatment
Conifer	Pine needle midge	<i>Thecodiplosis brachyteroides</i>	400	500	7	Adults (1st generation)
Conifer	Pine tortoise scale	<i>Toumeyella parvicornis</i>	400	1000	4	Crawlers
Conifer	Striped pine scale	<i>Toumeyella sp.</i>	400	500	3	Crawlers (1st generation)
Basswood	Basswood lacebug	<i>Gargaphia tiliae</i>	415	-	6	Adults/nymphs
MANY	Fourlined plant bug	<i>Poecilocapsus lineatus</i>	435	-	6	Egg hatch / early instars
Many	Two-Spotted Mite	<i>Tetranychus urticae</i>	437	997	RU	Adults (build-up activity)
Birch	Bronze Birch Borer	<i>Agrilus anxius</i>	440	880	RU	Adults (egg laying)
Rhododendron	Azalea whitefly	<i>Pealius azaleae</i>	448	700	5	Adults/nymphs

Pest Scouting – Growing Degree-day Ranges						448 –707 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Boxwood	Boxwood Leafminer	<i>Monarthropalpusi flavus</i>	448	700	RU	Larvae treatment
Conifer	Hemlock looper	<i>Lambdina fiscellaria</i>	448	707	5	Typical treatment window
Oak	Oak skeletonizer	<i>Bucculatrix ainsliella</i>	448	707	5	Typical treatment window
Many	Gypsy moth	<i>Lymantria dispar</i>	450	900	4	Caterpillar to pupation - control target missed
Conifer	Pine Chafer (Anomela Beetle)	<i>Anomala oblivia</i>	450	600	7	Adults (1st generation)
Conifer	Pine shoot beetle	<i>Tomicus piniperda</i>	450	500	4	Adults emerge; begin shoot feeding - control target
Juniper	Maskell scale	<i>Lepidosaphes pallida</i>	470	-	6	Crawlers (1st generation)
Conifer	European pine shoot moth	<i>Rhyacionia buoliana</i>	480	710	5	Larvae Treatment
Malus, Prunus, many	Peach Tree Borer	<i>Synanthedon sp.</i>	500	600	RU	Adults - emerge (1st treatment both types)
Rhododendron	Rhododendron Borer	<i>Synanthedon rhododendri</i>	509	696	RU	Adults emerge
Many	White prunicola scale	<i>Pseudaulacaspis prunicola</i>	513	-	6	Crawlers (1st generation)
Many	Redheaded flea beetle	<i>Systema frontalis</i>	517	1028	Unv. Del	Adults - feeding / laying eggs
Many	Cottony camellia / taxus scale	<i>Pulvinaria floccifera</i>	520	-	6	Crawlers (1st generation)
Birch	Birch Leafminer	<i>Fenusa pusilla</i>	530	700	RU	Larvae (2nd generation)
Conifer	Arborvitae Leafminer	<i>Argyresthia thuiella</i>	533	700	RU	Adults (egg laying) - larvae treatments
Euonymus	Euonymus Scale	<i>Unaspis euonymil</i>	533	820	RU	Crawlers (1st generation)
Maple	Greenstriped mapleworm	<i>Dryocampa rubicunda</i>	533	1645	5	Control target
Oak	Oak blotch leafminers	<i>Cameraria spp. ; Tisheria spp.</i>	533	912	5	Typical treatment window
Oak	Oak blotch leafminers	<i>Cameraria spp. ; Tisheria spp.</i>	533	912	5	Typical treatment window
Conifer	Balsam gall midge	<i>Paradiplosis tumifex</i>	550	700	4	Galls apparent
Conifer	Juniper scale	<i>Carulaspis juniperi</i>	550	700	7	Egg hatch
Malus, Prunus, many	Greater peach tree borer	<i>Synanthedon exitiosa</i>	575	710	4	Adult emergence
Conifer	Bagworm	<i>Thyridopteryx ephemeraeformis</i>	600	900	RU	Larvae (early instars) - ONLY CONTROL WINDOW
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	600	1000	7	Nymphs active - Douglas fir (control target)
Conifer	Cryptomeria scale	<i>Aspidiotus cryptomeriae</i>	600	800	3	First crawler emergence
Conifer	Cryptomeria scale	<i>Aspidiotus cryptomeriae</i>	600	800	RU	Crawlers (1st generation)
Elm	Elm leaf beetle	<i>Xanthogaleruca luteola</i>	600	1300	7	Larvae (2nd generation)
Conifer	Spruce budscale	<i>Physokermes hemicryphus</i>	700	1150	4	Crawlers (1st generation)
Conifer	Juniper scale	<i>Carulaspis juniperi</i>	707	1260	RU	Crawlers (1st generation)

Pest Scouting – Growing Degree-day Ranges						707 – 1151 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Many	White prunicola scale	<i>Pseudaulacaspis prunicola</i>	707	1151	RU	Crawlers (1st generation)
Many	Calico scale	<i>Eulecanium cerasorum</i>	714	-	6	Crawlers (1st generation)
Conifer	Striped pine scale	<i>Toumeyella pini</i>	750	800	4	Egg hatch
Turf	Hairy cinch bug	<i>Blissus leucopterus</i>	765	870	RU	1st generation (50% - 2nd instar)
Oak, hickory, birch, many	Oak lecanium scale	<i>Parthenolecanium quercifex</i>	789	-	6	Crawlers (1st generation)
Rhododendron	Azalea Lacebug	<i>Stephanitis pyrioides</i>	802	1029	RU	Eggs / Nymphs 3rd Generation
Acer	Cottony maple leaf scale	<i>Pulvinaria acericola</i>	802	1265	5	Crawlers (1st generation)
Many, shadetrees	Cottony maple scale	<i>Pulvinaria innumerabilis</i>	802	1265	RU	Crawlers (1st generation) - control target
Oaks	Golden oak scale	<i>Asterolecanium variolosum</i>	802	1266	5	Egg hatch
Oaks	Oak spider mites	<i>Oligonychus bicolor</i>	802	1265	RU	All Stages
Many	Roundheaded appletree borer	<i>Saperda candida</i>	802	1129	RU	Adults
Maples	Japanese maple scale	<i>Lopholeucaspis japonica</i>	829	-	6	Crawlers (1st generation)
Elm	European elm scale	<i>Gossyparia spuria</i>	831	1388	6,2	Crawlers (1st generation)
Mimosa, Honeylocust	Mimosa webworm	<i>Homadaula anisocentra</i>	880	-	RU	Larvae (1st generation)
Turf	Bluegrass billbug	<i>Sphenophorus parvulus</i>	884	1003	RU	Larvae 20%
Turf	N. Masked chafer	<i>Cyclocephala borealis</i>	898	905	RU	1st adults
Honeylocust	Honeylocust mite	<i>Eotetranychus multigituli</i>	912	1514	2	All Stages
Honeylocust	Honeylocust spider mite	<i>Platytetranychus multigituli</i>	912	1514	5	Typical treatment window
Shade trees	European fruit lecanium	<i>Parthenolecanium corni</i>	932	1645	6,RU	Crawlers - control target
Many	Japanese beetle	<i>Popillia japonica</i>	950	2150	7	Adult emergence and feeding
Ash	Emerald ash borer	<i>Agilus planipennis</i>	1000	1200	4	Peak adult activity
Conifer	Pine tortoise scale	<i>Toumeyella parvicornis</i>	1000	1200	4	Egg hatch ends, last of crawlers
Many	Redheaded flea beetle	<i>Systema frontalis</i>	1028	1570	Unv. Del	2nd generation of un-hatched eggs
Yew, many conifers	Fletcher Scale (Yew)	<i>Parthenolecanium fletcheri</i>	1029	1388	RU	Crawlers (1st generation) - control target
Locust	Locust leafminer	<i>Odontota dorsalis</i>	1029	1388	RU	Adults
Juglandaceae	Walnut Caterpillar	<i>Datana integerrima</i>	1029	1514	2	Larvae Treatment
Turf	Bluegrass billbug	<i>Sphenophorus parvulus</i>	1094	1217	RU	Larvae (40%)
Many	Indian wax scale	<i>Ceroplastes ceriferus</i>	1145	-	6	Crawlers (1st generation)
Many	Oriental Beetle	<i>Anomala orientalis</i>	1147	-	6	Adult emergence
Euonymus	Euonymus Scale	<i>Unaspis euonymil</i>	1150	1388	5	2nd generation targeted treatments
Dogwood	Dogwood sawfly	<i>Macremphytus tarsatus</i>	1151	1500	RU	Larvae Treatment

Pest Scouting – Growing Degree-day Ranges						1151 – 1700 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Tulip	Tuliptree aphid	<i>Illinoia liriodendri</i>	1151	1514	RU	Nymphs / adults
Boxwood	Boxwood leafminer	<i>Monoarthropalpus flavus</i>	1200	1400	5	Larvae Treatment
Conifer	Northern pine weevil	<i>Pissodes nemorensis</i>	1200	1400	4	2nd generation adults active
Conifer	Pales weevil	<i>Hylobius pales</i>	1200	1400	4	Adults 2nd generation
Conifer	Pine root collar weevil	<i>Hylobius radicis</i>	1200	1400	4	2nd generation adults active
Conifer	White pine weevil	<i>Pissodes strobi</i>	1200	1400	4	2nd generation adults active
Rhododendron	Azalea whitefly	<i>Pealius azaleae</i>	1250	1500	5	Adults/nymphs
Rhododendron	Azalea whitefly	<i>Pealius azaleae</i>	1250	1500	5	Adults/nymphs (2nd generation)
Turf	Bluegrass sod webworm	<i>Parapediasia teterrella</i>	1250	1920	RU	Larvae
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	1250	1350	7	Crawlers (2nd generation)
Birch	Birch Skeletonizer	<i>Bucculatrix canadensisella</i>	1266	1580	5	Typical treatment window
Shade trees	European fruit lecanium	<i>Parthenolecanium corni</i>	1266	1645	5	Crawlers
Many	Fall webworm	<i>Hyphantria cunea</i>	1266	1795	2	Caterpillars present - larvae treatment
Many	Lacebugs (on hawthorn)	<i>Corythucha cydoniae</i>	1266	1544	RU	Nymphs / adults
Many	Leafhoppers	Species within <i>Cicadellidae</i>	1266	1544	RU	Nymphs / adults
Privet	Privet rust mite	<i>Aculus ligustri</i>	1266	1515	5	Second typical treatment window
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	1290	1917	3	Crawlers emerge (2nd generation)
Many	Two spotted spider mite	<i>Tetranychus urticae</i>	1300	2000	RU	Nymphs / adults
Turf	N. Masked chafer	<i>Cyclocephala borealis</i>	1377	1579	RU	Adults (90%)
Conifer	Hemlock scale	<i>Abgrallaspis ithacae</i>	1388	2154	5	Typical treatment window
Lilac	Lilac leafminer	<i>Caloptilia syringella</i>	1388	1644	5	Typical treatment window
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	1500	1775	RU	Adults/nymphs (Douglas Fir)
Malus, Prunus, many	Peachtree borer	<i>Synanthedon sp.</i>	1500	1800	RU	Larvae Treatment
Conifer	Pine Needle Scale	<i>Chionaspis pinifoliae</i>	1500	-	4	Hyaline crawlers = treatment timing
Conifer	Nantucket tip moth	<i>Rhyacionia frustrana</i>	1514	1917	RU	Adults 2nd generation
Many	Roundheaded apple tree borer	<i>Saperda candida</i>	1514	1798	5	Typical treatment window
Many	Redheaded flea beetle	<i>Systema frontalis</i>	1570	1860	Udel.	2nd generation egg hatch
Many	Japanese beetle	<i>Popillia japonica</i>	1590	1925	RU	Adults (90%)
Many	White prunicola scale	<i>Pseudaulacaspis prunicola</i>	1637	-	6	Egg hatch / crawler (2nd generation)
Conifer	Rust-mites	<i>Nalepella and Setoptus spp.</i>	1644	2030	RU	Nymphs / adults
Many	Two-banded Japanese weevil	<i>Pseudocneorhinus bifasciatus</i>	1644	2271	RU	Adults
Willow	Willow twig aphids	<i>Lachnus spp.</i>	1644	2271	5	Typical treatment window
Conifer	Juniper webworm	<i>Dichomeris marginella</i>	1645	1917	RU	Larvae Treatment
Euonymus	Euonymus Scale	<i>Unaspis euonymil</i>	1700	-	RU	Continued 2nd generation treatments

Pest Scouting – Growing Degree-day Ranges						1700 – 2800 GDD50
Crop Type	Common Name	Scientific Name	GDD Min (50F)	GDD Max (95F)	Ref.	Developmental / Target Stage
Conifer	Cryptomeria scale	<i>Aspidiotus cryptomeriae</i>	1750	2130	RU, 4	Crawlers emerge (2nd generation)
Many	Obscure scale	<i>Melanaspis obscura</i>	1774	-	6	Egg hatch / crawler
Oaks	Oak skeletonizer	<i>Bucculatrix ainsliella</i>	1798	2155	RU	Larvae
Conifer	Arborvitae leafminer	<i>Argyresthia thuiella</i>	1800	2200	RU	Larvae Treatment (3rd generation)
Mimosa, Honeylocust	Mimosa webworm	<i>Homadaula anisocentra</i>	1800	2100	RU	Larvae (2nd generation)
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	1850	1950	RU	Galls open (Spruce)
Turf	Hairy chinch bug	<i>Blissus leucopterus</i>	1903	2160	RU	Second generation- 50%- 2nd instars
Mainly Oaks	Orangestriped oakworm	<i>Anisota senatoria</i>	1917	-	6	Egg hatch - early instars
Tulip	Tuliptree aphid	<i>Illinoia liriodendri</i>	1917	2033	RU	Nymphs
Conifer	Zimmerman pine moth	<i>Dioryctria zimmermani</i>	1917	2154	5	Treatment window (adult flight-1700 GDD)
Conifer	White pine aphid	<i>Cinara strobis</i>	1991	2271	RU	Adults
Rhododendron	Azalea whitefly	<i>Pealius azaleae</i>	2032	2150	5	Adults/nymphs (3rd generation)
Maple	Sugar maple borer	<i>Glycobius speciosus</i>	2032	2375	5	Typical treatment window
Conifer	Maskell scale	<i>lepidosaphes pallia</i>	2035	-	6	Egg hatch / crawler (2nd generation)
Mainly Tulip	Tulip tree scale	<i>Toumeyella liriodendri</i>	2037	2629	RU	Crawlers (1st generation)
Mainly Magnolia	Magnolia scale	<i>Neolecanium cornuparvum</i>	2155	2800	RU	Crawlers (1st generation)
Locust	Locust borer	<i>Magacyllene robiniae</i>	2271	2805	5	Typical treatment window
Poplar and Willow	Poplar and willow borer	<i>Crytorhynchus lapathi</i>	2271	2806	5	Typical treatment window
Conifer	Spruce spider mite	<i>Oligonychus ununguis</i>	2375	2806	5	Typical treatment window
Many	Southern red mite	<i>Oligonychus ilicis</i>	2500	2700	5	Typical treatment window
Maple	Japanese maple scale	<i>Lopholeucaspis japonica</i>	2508	-	6	Egg hatch / crawler (2nd generation)
Conifer	Elongate hemlock scale	<i>Fiorinia externa</i>	2515	2625	RU	Typical treatment window - fall activity
Yew, many conifers	Fletcher Scale (Yew)	<i>Parthenolecanium fletcheri</i>	2515	2800	RU	Fall control of overwintering stage
Hardwoods	Fall webworm	<i>Hyphantria cunea</i>	2793	-	6	Egg hatch / crawler (2nd generation)
Conifer	Cooley spruce gall adelgid	<i>Adelges cooleyi</i>	2800	3000	3	Fall control of overwintering stage
Conifer	Eastern spruce gall adelgid	<i>Adelges abietis</i>	2800	3000	3	Fall control of overwintering stage

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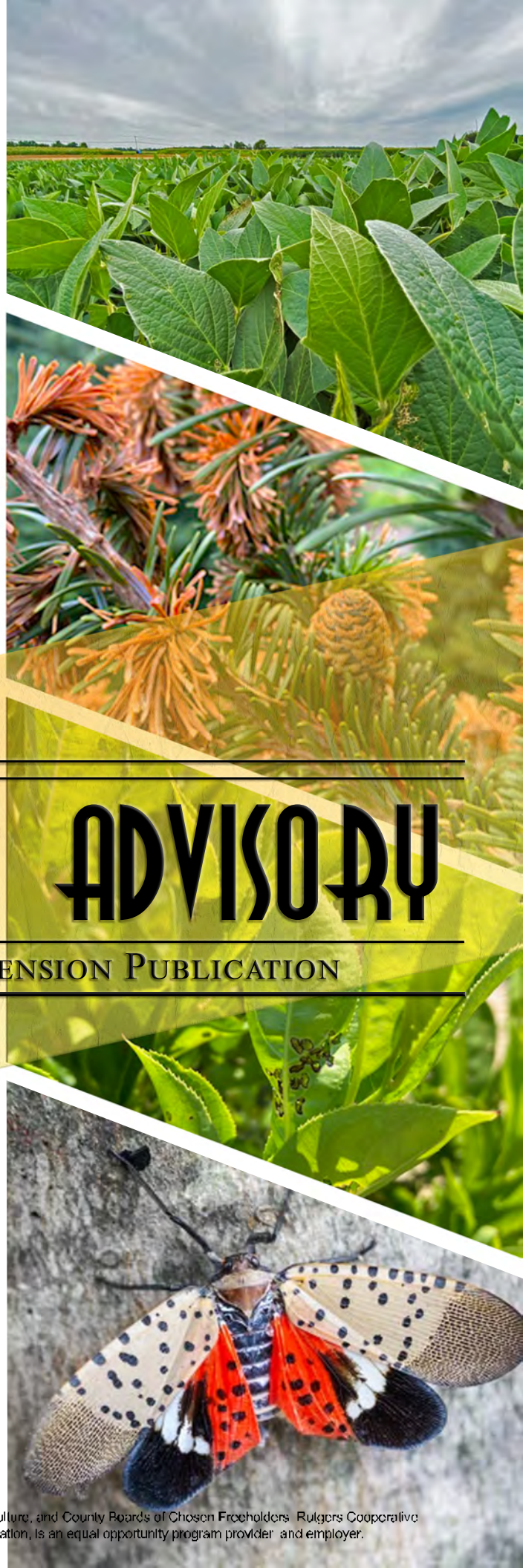
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(FOLLOW THE URL IN PDF FORMAT OR SCAN THE QR CODE IF HANDHELD)

Instructions on obtaining your local growing degree-days

<https://plant-pest-advisory.rutgers.edu/?s=obtaining>



NEWA

Growing degree-day calculator

<https://newa.cornell.edu/degree-day-calculator>



UPEST

Growing degree-day calculator

https://uspest.org/dd/model_app



Syngenta GreenCast

Growing degree-day calculator

<https://www.greencastonline.com/growing-degree-days>



Additional Growing Degree-day Resources and Source / Citation Information

1. <http://csetompkins.org/resources/using-growing-degree-days-for-insect-management>
2. <https://extension.psu.edu/ipm-basics-for-christmas-trees#section-2>
3. www.canr.msu.edu/ipm/agriculture/christmas_trees/gdd_of_conifer_insects
4. www.agriculture.nh.gov/publications-forms/documents/landscape-pests.pdf
5. <https://extension.umd.edu/ipm/pest-predictive-calendar-landscapenursery>

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SAFE-TEA: BREWING AND USING AGRICULTURAL TEAS SAFELY

Agricultural teas come in multiple forms, are prepared from many ingredients, and are brewed and applied in various ways. Each of these inputs is associated with various risks and benefits – some well-researched and some not. This webinar will provide background on agricultural teas and the implications of current policy on their use in fruit and vegetable production. The speakers will introduce important terms to know, discussions about past and ongoing research, and the science behind FSMA Produce Safety Rule provisions in a conversational atmosphere and interactive environment.

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MARCH 10, 2022
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A Viticultural and Enological Symposium

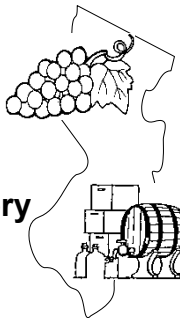


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SEMINAR INFORMATION

The symposium is a daylong series of lectures by professionals in viticulture (grape growing), enology (winemaking), and marketing. Lectures are designed to present new and relevant information to professionals and amateurs involved with any aspect of grape growing or the wine industry.

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REGISTRATION INFORMATION

The pre-registration fee for the symposium is \$95 for non industry members. For winery personnel, the fee is \$95 for the first person to register from each winery and \$75 each additional person from that winery. Registration fee at the door is \$120. The cost includes seminars, roundtable discussions, demonstration tastings, continental breakfast, breaks, buffet lunch (featuring NJ wines), and the Award Winning Wine Showcase.

PROGRAM DESCRIPTION

The program includes experience and perspective from wine consultants, university faculty as well as commercial producers. The emphasis is on quality grape and wine production. The morning session will start with an in depth discussion of disease control and management. A presentation addressing the newest insect now attacking NJ vineyards will be discussed. This is followed by a special guest, the president of Rutgers University. No Rutgers president has ever honored us with his presence before. A tasting and discussion of two new disease grape varieties follows. As is our tradition at Grape Expectations, the winners of the 2021 Governor's Cup wines will be discussed and tasted. The producers of these wines will explain how those wines were produced. New technology to produce disease resistant grape varieties will be presented. The afternoon will also include research on the prevention of water pollution at wineries, a

discussion of assessing soil health, an update on the proprietary NJ grape San Marco, and the introduction of the New Jersey Grape and Wine Certificate Program. There will be multiple tastings conducted during the symposium. Award-winning wines will be available for sampling in the NJ Wine showcase, immediately following the symposium. This is the thirty eighth year of the symposium. Come, learn, and spend time with your fellow NJ wine professionals

DIRECTIONS

FORSGATE COUNTRY CLUB

375 Forsgate Drive
Monroe Twp., NJ 08831
732-521-0070

FORSGATE COUNTRY CLUB is conveniently located in central New Jersey - close to Princeton and New Brunswick and only one hour from New York and Philadelphia. Take NJ Turnpike to Exit 8A; after toll, exit the left ramp (Jamesburg/Rt 32 E) onto Forsgate Drive, and follow 1.2 miles through traffic light to Club on left.

PROGRAM COORDINATORS

Gary C. Pavlis, Ph.D.

County Agent III/ Associate Professor
Agriculture and Natural Resource Department
Rutgers University

Daniel Ward, Ph.D.

Associate Extension Specialist in Pomology
Director, New Jersey Center for Wine Research and Education
Director, Rutgers Agricultural Research & Extension Center

Hemant Gohil, Ph.D.

County Agent II/ Associate Professor
Agriculture and Natural Resources Department
Rutgers University

Gary C. Pavlis, Ph.D.
Atlantic States Enological Society

THE PROGRAM

- 8:30 **Registration and Continental Breakfast**
- 9:00 **Welcome, Introductions, and Symposium Overview:**
Dr. Gary C. Pavlis - RCE
- 9:10 **Grape Disease Management for 2022.**
Dr. Peter Oudemans, RCE
- 9:40 **What's New From The Industry?**
- 10:00 **Break**
- 10:15 **Spotted Lanternfly in Vineyards**
Dr. Flor E. Acevedo
Entomologist, Penn State Univ.
- 11:00 **Remarks by President Jonathan Holloway**
Dr. Jonathan Holloway, President, Rutgers the State University
- 11:15 **Governor's Cup Reviews**
Erik Heritage, Mark Hernandez,
Larry Sharrott
- 12:00 **Buffet Lunch Featuring NJ Wines**
- 1:00 **The *Mystery Wine Challenge***
Dr. Gary C. Pavlis, RCE
- 1:30 **Tasting of Two Disease Resistant Grape Varieties**
Dr. Dan Ward, Director of the NJ Center for Wine Research
- 2:00 **Using Genetic Engineering Tools to Reduce Disease Susceptibility of Global Wine Grapes**
Dr. Rong Di Rutgers/NJAES
- 2:30 **Achieving Pollution Prevention Through Energy Efficiency In Wineries**
Dr. Serpil Guran Rutgers/NJAES.
- 3:00 **Achieving Pollution Prevention Through Water Discharge Reduction In Wineries.**
Dr. Christopher C. Obropta P.E.
Rutgers/NJAES

3:30 **How Do I Assess the Health of My Soil?**
Bill Bamka, RCE of Burlington County

4:00 **Introducing the Grape and Wine Science Certificate Program**
Dr. Bev Temper, Dept. of Food Science,
Rutgers University

4:15 **San Marco – The Proprietary Grape of New Jersey – Looking to the Future**
Jim Quarella, Owner-Bellview Winery

4:30 NJ Wine Showcase

THE SPEAKERS

Dr. Jonathan Holloway, the 21st president of Rutgers, The State University of New Jersey, is an eminent historian and an elected member of the American Academy of Arts and Sciences. He began his presidency on July 1, 2020. He previously served as provost of Northwestern University and dean of Yale College.

Dr. Dr. Peter Oudemans Rutgers/NJAES. Peter leads the small fruit pathology program. This program is focused on the development of methodologies to reduce the impact of plant disease and improve fruit quality. Significant strides are being made through the use of remote sensing for detecting, mapping and understanding the impact of plant disease.

Dr. Flor E. Acevedo is an Assistant Professor of Entomology at Penn State University. She works with insects associated with grape and other specialty crops. Her research focuses on insect-plant interactions and pest management.

Bill Bamka is a County Agricultural Agent with Rutgers Cooperative Extension in Burlington County, New Jersey. Bill has education and professional experience in agronomy, soil science, wetland science, nutrient management, and soil restoration. Bill has worked extensively in the areas of field crop production, alternative crops, nutrient management as well as soil health and soil quality.

Dr. Hemant Gohil is the Gloucester Co. agent with RCE with grape responsibilities. Hemant has conducted research with grapes in Washington State as well as in California.

Erik Heritage of Heritage Winery, **Mark Hernandez** of Autumn Lake Winery, and **Larry Sharrott** of Sharrott Winery are recipients of the NJ Wine Competition 2021 Governor's Cups.

Dr. Gary C. Pavlis is the Agricultural Agent in Atlantic County, NJ. His research/extension program focuses on vineyard establishment, as well as

increasing the production efficiency of grapes.

Dr. Rong Di is Research Associate Professor in the Department of Plant Biology at Rutgers University. Her research focus is plant biotechnology and natural products for human health. Additionally, her lab uses genetic engineering tools including CRISPR-gene editing to produce disease resistant and nutrition enhanced plants.

Dr. Dan Ward Rutgers Associate Extension Specialist in Pomology, and Director of the New Jersey Center for Wine Research and Education. Dr. Ward has statewide extension responsibility for fruit crops including wine grapes. His viticulture research encompasses canopy management, training systems, and variety evaluation.

Jim Quarella is the owner of Bellview Winery, a winery in the Landisville section of Buena in Atlantic County, New Jersey. A family produce farm since 1914, the vineyard was first planted in 2000, and opened to the public in 2001. Bellview has 40 acres of grapes under cultivation, and produces 8,000 cases of wine per year.

Dr. Beverly Tepper is a Professor in the Department of Food Science at Rutgers-New Brunswick. She directs the Sensory Evaluation Lab and is the co-founder and director of the Rutgers Center for Sensory Science & Innovation which conducts collaborative research with the food industry. She is a member of the NJ Center for Wine Research and Education, and the Garden State Wine Growers Association. She is a wine grower and co-owner of a newly established vineyard in central NJ.

Dr. Serpil Guran is the Director of Rutgers EcoComplex "Clean Technology Innovation Center & Business Incubator". She also leads "the Ecolgnite: Clean Technology Proof of Concept Center and Accelerator Program". Additionally, she serves as a courtesy Associate Teaching Professor with the Plant Biology Program at the School of Environmental and Biological Sciences, Rutgers University. Serpil is the lead investigator of the EPA-funded project PROVIDING TECHNICAL ASSISTANCE TO NEW JERSEY WINERIES: ACHIEVING POLLUTION PREVENTION THROUGH ENERGY EFFICIENCY AND DISCHARGE REDUCTION FROM WINERY OPERATIONS.

Dr. Christopher C. Obropta is the Director of the New Jersey Water Resources Research Institute, an Extension Specialist in Water Resources with RCE, and a Professor in the Department of Environmental Sciences at the School of Environmental and Biological Sciences, Rutgers University. Prof. Obropta is leading the EPA-funded project's winery water consumption and conservation related

activities. He and his team developed a draft document titled "Waste and Wastewater Management for New Jersey's Wineries Best Management Practices Manual".

REGISTRATION INFORMATION

Name: _____

Spouse/partner: _____

Winery/Business: _____

Address: _____

Phone: _____ FAX: _____

E-MAIL: _____

Cost: Non-Industry members - \$95
Winery Personnel - \$95 for first person and \$75 for additional industry members.
\$120 at the door.

Make checks payable to: Rutgers, The State University of New Jersey

Please complete the form and return to:

GRAPE EXPECTATIONS
Rutgers Cooperative Extension
6260 Old Harding Highway
Mays Landing, NJ 08330

For more information on registration:

Dr. Gary C. Pavlis
(609) 625-0056 (Voice)
(609) 625-3646 (FAX)
pavlis@njaes.rutgers.edu

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RUTGERS, THE STATE UNIVERSITY, NEW
BRUNSWICK**



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\$8 each or 3 for \$20

Easter Lilies \$10 each or 3 for \$25

*All orders must be received by: Friday, April 1st
Pick up is Monday, April 11th (Noon to 4:00 pm)
Tues., April 12th, & Wed., April 13th
(9 am to 4:00 pm) At the Extension Center*

Hyacinth (3 blooms) # _____ Tulips (5-6 blooms) # _____

Daffodils (5-6 blooms) # _____ Easter Lilies (4 blooms) # _____

Name: _____ Phone: _____

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Total Amount Due: \$ _____

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2022 Rutgers Food Innovation Center Training Schedule

Mellonie O'Neill

Senior Manager: QA Compliance & Training

Rutgers Food Innovation Center

450 East Broad Street, Bridgeton, NJ 08302

Office: 856-391-7607

The Rutgers Food Innovation Center is offering a series of courses over the next year. For full course descriptions and dates visit <https://foodinnovation.rutgers.edu/what-fic-does/learn/training-services/>

Date		Course/Company	Reg. #	Trainers	\$/person
May	24-25	ServSafe		MO	\$199
Jun	1	GMP	n/a	MO	\$99
Jun	7-9	HACCP	(IHA)	DFS & MO	\$495
Jun	14-16	Seafood HACCP		DFS & ES?	\$495
Jun	21-23	PCHF	17509	DFS & MO	\$545
Jul	12-13	FSVP	17511	DFS & MO	\$495
Jul	26-27	IAVA	17512	DFS & MO	\$395
Aug	2-3	ServSafe		MO	\$199
Aug	9-10	SQF Practioner		Eva/MO	\$749
Sep	10-11	ServSafe		MO	\$199
Sep	14	GMP	n/a	MO	\$99
Sep	27-29	HACCP	(IHA)	DFS & MO	\$495
Oct	4-5	SQF Practioner		Eva/MO	\$749
Oct	11-13	PCHF	17513	DFS & MO	\$545
Oct	25-26	FSVP	17514	DFS & MO	\$495
Nov	8-9	IAVA	17515	DFS & MO	\$395
Dec	6-8	HACCP	(IHA)	DFS & MO	\$495
Dec	13-15	PCHF	17516	DFS & MO	\$545