

Cultivating Cumberland

June- 2025

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Attachments

- WPS Central Posting Area

New Statewide Formula Value Adopted

The formula is now active! Farmland owners who have been in the process of preserving their farms and waiting for the formula offer can now anticipate moving forward. SADC staff will coordinate all necessary updates to prior agreements, survey, title, and other documents in preparation for closing!

For interested landowners, the SADC has issued a new Guide & Resource Booklet for Farmland Preservation, (<https://www.nj.gov/agriculture/sadc/documents/applic/guideandresourcebookletforthenjfarmlandpreservationprogram.pdf>) which contains a section on the SFV (pages 5-10).

If you have questions about SFV or are interested in farmland preservation, contact Cindy Roberts at cindy.roberts@ag.nj.gov or call 609-913-6582.

“Next Generation of Farming” Report Available

The SADC recently published the Next Gen Program report based on extensive outreach to and feedback from the agricultural community.

The report summarizes the challenges faced by the next generation of farmers and farm businesses, and it provides recommendations for addressing the challenges, filling gaps in programming, and enhancing support. The recommendations are intended to help create a strategic path forward for supporting the next generation of farming in the Garden State.

<https://www.nj.gov/agriculture/sadc/documents/publications/NJNextGenReport.pdf>

Basil downy mildew found in New Jersey – ALERT 6/16/25

Plant & Pest Advisory - May 27, 2025 - Andy Wyenandt

Basil downy mildew has been confirmed in greenhouse grown sweet basil in central New Jersey. This is the first confirmed report of BDM in the state and region this growing season. All basil growers are encouraged to scout their fields or greenhouses on a daily basis.

For more information on controlling BDM in the field-grown basil <https://plant-pest-advisory.rutgers.edu/options-for-controlling-basil-downy-mildew-in-the-field-2-3-2-2/>

For more information on controlling BDM in the greenhouse <https://plant-pest-advisory.rutgers.edu/controlling-basil-downy-mildew-in-the-greenhouse-2/>

To track the progress of BDM in the US <https://basil.agpestmonitor.org/>

For more information on the Rutgers Basil Breeding Program <https://plant-pest-advisory.rutgers.edu/an-introduction-to-rutgers-downy-mildew-resistant-sweet-basils-2/>

Deer Damage Control in the Vineyard

Hemant Gohil and Daniel Ward - May 16, 2025 - Plant and Pest Advisory

New Jersey's high deer population significantly threatens vineyards, particularly those near wooded areas. Deer are a pest, especially on young vines and in the early growing season when food sources are scarce, and tender shoots are emerging. If the vineyard is close to the deer population, management is needed for the long-term productivity of the vineyards.

Identifying the deer damage: Deer browse on leaves and tender shoots using the lower front teeth. Deer do not have upper incisors, so the leaves browsed by deer have a rough, torn, and shredded appearance but no tooth marks (Figure 1). This can cause substantial crop loss and even compromise the health of the vines, specifically if the same vine is damaged over the years (Figure 1). Fortunately, secondary buds of grapevines can grow and produce replacement shoots when the actively growing shoot tip from the primary bud is damaged. A new shoot from a basal bud may not be as productive, however, it will ensure new vegetative growth, sustaining the canopy of the grapevine.

Management: Not all vineyards are equally affected. For example, deer have consistently damaged the 5-6 vines of border rows in previous years at a southern NJ-based vineyard. But the damage is consistently limited only to those few vines, so no specific prevention method is used. Generally, once the shoot has reached the second catch wire, there is more leaf damage while the apical shoot continues to grow. If the apical growth is damaged, new shoots will grow from lateral buds, and they can be productive, albeit with reduced yield (Figure 2). All routine cultural practices should be continued to keep this new growth healthy and develop healthy basal buds for the following year's growth.



Figure 1. Evidence of leaf browsing by deer in the early spring. The grapevine is declining due to continuous deer damage over the years Photo by H. Gohil



Figure 2. The emergence of shoot from the secondary bud after the destruction of the terminal growth by deer damage. The new shoot has a flower cluster. Photo by H. Gohil



Figure 3. The permanent, eight-foot-high fence with metal posts between wooden posts (right) covers a larger area. Photo by H. Gohil.

A permanent fence promises permanent exclusion. Exclusion is the best strategy for any deer-affected vineyard to avoid deer damage, even at the cost of aesthetics. Some growers have mentioned that they do not like the industrial look, which may not appeal to winery customers. The reality is that in most vineyards in NJ, Deer fencing is a necessity. With large, wooded areas and multiple open access points, the requirement for permanent fences could increase substantially. For effective deer fencing, a minimum 8-foot-high, woven-wire fence is a must (Figure 3). This height helps deter deer from attempting to jump over the fence. The fence has to create a complete enclosure. Figure 4 is an example where 2 feet of straight wire fencing over 6 feet of woven-wire fence gave a total of 8 feet of height; however, the deer was able to jump through. If there is a gate, ensure use netting or other material to prevent deer from passing under the gate (Figure 5).

Continued on page 3

Deer Damage Control in the Vineyard ..Continued from page 2



Figure 4. The deer jumped through the 8-foot catch wire. A 2-foot straight wire fence above 6 feet of woven-wire fencing was ineffective. Photo by H. Gohil



Figure 5. Netting to cover the space under the gate. Photo by H. Gohil



Figure 6. The temporary fencing surrounds the periphery of the planted vines. The solar panel mounted on the top generates a mild voltage current with a ground. Photo by H. Gohil

An exclusion fence should be part of the basic vineyard development budget. One can delay it until after the first year by using tall grow tubes. The tubes work as an exclusion method until vines grow out of the tubes. Permission from the township is required for the fencing; sometimes, the township may also ask for written approval from the neighbors. The fencing is expensive. A recent job by a local outfit cost around \$12,000 to fence a 2.5-acre vineyard in southern New Jersey. However, the fencing cost can be staggering for a much larger area. Here, the fence cost can be reduced by increasing the distance between wooden posts and installing metal posts between the wooden posts (Figure 3). The State Department of Agriculture sometimes offers cost-share funds for wildlife fencing materials. For more information, including the application form, a notice of availability and eligibility, and information about New Jersey growers, please visit <https://www.nj.gov/agriculture/divisions/anr/agriassist/deerfencing.html>.

Temporary electrical fencing: If the area affected by the deer is small, temporary electrical fencing against the end posts and anchor wires will prevent the deer from stepping into the vineyard. Solar panels or a battery can power the wire. Solar-generated power can sometimes be weak and does not generally jolt enough to scare the deer. Rechargeable batteries can generate higher voltage, but the batteries must be recharged often. The wires can be removed or laid on the ground to allow tractor or labor movement. This low-power system generates low-current from a small solar panel mounted at the top of a fence post (Figure 6). This is an inexpensive system; however, temporary fencing may not be practical in the case of extensive vineyards. Deer can avoid these temporary-fenced blocks and enter an unfenced block, as they can change their feeding behavior.

Killing deer using firearms can be an effective and affordable way to control the deer causing damage in remote vineyards away from human habitation. Ensure you comply with the depredation regulations available on the Fish and Wildlife Service website. There are professional service providers with extensive experience in deer management.

Repellants are a short-term solution and work best in small-scale areas. Odor sprays that contain animal-based proteins are somewhat effective in deterring deer. Spray around the vineyard or mount on the trellis system before the deer begin feeding. Sound repellent is also effective; however, deer often become habituated to it after the initial scare and repeated exposure. Dogs can be trained to protect the vineyard. However, the challenge is to keep the dogs within the vineyard through an invisible perimeter programmed into their collar. Many systems use a buried wire that transmits a radio signal that defines the boundary. Complete covering of the fence with dark cloth to block the vineyard from view is typically ineffective, as completely blocking the view of the entire vineyard from a distance is generally not possible.

Reference: Loegring JP and Witt ME. 2024. How to manage deer damage on trees and other plants. The University of Minnesota Extension. <https://extension.umn.edu/planting-and-growing-guides/white-tailed-deer-damage>

Beat the Heat: Recognize Signs of Heat Illness

Plant & Pest Advisory- May 20, 2024- Kate Brown

Several types of heat-related illnesses can affect workers and symptoms may be non-specific. When a worker is performing physical labor in warm environments, any unusual symptom may be a sign of heat illness.

The chart below from OSHA outlines symptoms and signs that may indicate heat stress. Note that common signs and symptoms include muscle pain, weakness or fatigue, dizziness, heavy sweating, and rapid heart rate.

Heat-Related Illness	Symptoms and Signs	
Heat stroke	<ul style="list-style-type: none"> • Confusion • Slurred speech • Unconsciousness 	<ul style="list-style-type: none"> • Heavy sweating or hot, dry skin • Very high body temperature • Rapid heart rate
Heat exhaustion	<ul style="list-style-type: none"> • Fatigue • Irritability • Thirst • Nausea or vomiting 	<ul style="list-style-type: none"> • Dizziness or lightheadedness • Heavy sweating • Elevated body temperature or fast heart rate
Heat cramps	<ul style="list-style-type: none"> • Muscle spasms or pain 	<ul style="list-style-type: none"> • Usually in legs, arms, or trunk
Heat syncope	<ul style="list-style-type: none"> • Fainting 	<ul style="list-style-type: none"> • Dizziness
Heat rash	<ul style="list-style-type: none"> • Clusters of red bumps on skin 	<ul style="list-style-type: none"> • Often appears on neck, upper chest, and skin folds

Employers and workers should become aware of symptoms related to heat stress and heat illness. In addition, knowing what to do when someone is showing signs of heat illness is very important. This resource from NIOSH describes the appropriate first aid for each of these illnesses. Prompt action to provide first aid can make a difference in recovery of persons with heat illness. Multiple heat-related illnesses can occur together, and time is of the essence.

When in doubt, place the worker in a cool environment and call 911.

Diagnosing Southern Blight and White Mold in Tomato and Pepper

Plant & Pest Advisory - Andy Wyenandt

Southern blight is much more common in vegetable areas south of the state where summer temperatures remain hotter (above 90°F) for longer periods of time. Like white mold, it can survive in the soil for many years. Symptoms of Southern blight include infection at the base of the stem at the soil line. The resulting infection will girdle the plant causing wilt and death. The fungus will produce white, cottony mycelium and very small, spherical sclerotia which are often have a tannish, brown color.

White mold is more common than Southern blight in New Jersey, and like Southern blight, once introduced into a field or high tunnel it can be very difficult to control. The pathogen produces large black sclerotia on the surface and inside infected stems. If sclerotia of either pathogen make their way back into the soil, both can survive for years causing significant problems.

All infected plants need to be removed immediately and disposed of properly to help reduce the chances of sclerotia returning to the soil.

For more information on chemical control please see the 2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Diagnosing Verticillium Wilt in Eggplant

Plant & Pest Advisory - May 26, 2024 - Andy Wyenandt

Verticillium wilt is a common soil-borne fungal pathogen that once it has infested soil can remain for a very long time. *Verticillium* wilt is caused by either *Verticillium albo-atrum* or *Verticillium dahlia* and has a wide host range (over 200 plant species). Both pathogens can survive (overwinter) as microsclerotia in the soil. *Verticillium* wilt prefers cooler weather and drier soils and can be more severe in neutral to alkaline soils. Solanaceous weeds such as Nightshade may harbor the pathogen.

Symptoms can vary between hosts, but on eggplant the leaves of infected plants will typically become lopsided where one side of the leaf will wilt and stop expanding while the other side continues to develop. Vascular tissue near the soil line will become discolored. Eventually the entire plant will collapse as the vascular tissue becomes more infected (clogged) and water movement up the plant stops.

There is no resistance to verticillium wilt in eggplant and no effective fungicide control options so long crop rotations with non-susceptible crops are critically important. Some cultivars, such as 'Classic' and 'Epic' may maintain yield in infested fields.

Scheduling USDA audits GAP, Harmonized or Harmonized Plus

Wes Kline, Meredith Melendez and Jennifer Matthews

Anyone who has not scheduled their USDA audit needs to be aware of the documentation needed to be sent to the New Jersey Department of Agriculture prior to the audit. They will want to see a copy of your food safety plan, proof of your food safety training, any current water tests, training records of all personnel, ten days of supporting records (for example – cleaning and sanitizing equipment, monitoring for wildlife, approved supplier list, etc.), mock recall and a self-audit. Why do they want the records prior to the audit? It saves time on their end plus it will save the grower money by them spending less time on the farm.

The audits can be scheduled in two ways either call the NJDA office at 856-839-3388 or go to finspection@ag.nj.gov. Use the latest request form so if you have an old form contact them for the new one. The request should be at least two weeks prior to the audit.

Need for multiple audits.

Crops may be grouped together on the initial request to be included in the audit. The audit needs to be scheduled so the auditor can see the distinct types of harvest activities. For an asparagus and tomatoes example, if the asparagus is being harvested during the initial audit while the tomatoes are growing but won't be ready for harvest until a later date, the initial audit can cover both commodities, but an unannounced audit would be used by the auditor to observe the harvest of the tomatoes. Also, the auditor will want to see all crops listed on the audit request form.

It is an option for the auditee to ask for commodities to be split on different audits. To certify two audits that occur at separate times for different commodities the auditee would need to let the auditor know the intention for two audits in the season. There would be a separate audit done, a certificate for each audit and a website posting for each audit. The certification dates would be separate for each audit done. The basic hourly rate for audits is \$163.00/hr.

Beat the Heat: Water and Sports Drinks for Hydration

Plant & Pest Advisory - The Rutgers Farm Health and Safety Working Group: Kate Brown,
Michelle Infante-Casella, Stephen Komar and William Bamka - June 16, 2024

When it comes to hydration, the U.S. National Academies of Sciences, Engineering, and Medicine recommends an adequate daily fluid intake of about 15.5 cups (3.7 liters) of fluids a day for men and about 11.5 cups (2.7 liters) of fluids a day for women. Even with this guidance, the amount varies from person to person. Also, when temperatures are hotter and when workloads increase so should drinking water, to prevent dehydration and to help maintain the proper body temperature especially when sweating.

Regular intake of water throughout the day and during the evening, at recommended amounts may help prevent a person from becoming excessively thirsty and also prevent dehydration. The choice of drinking sports drinks that contain electrolytes may be considered when a person's activities dramatically increase, when they excessively sweat, if they show signs of dehydration, and/or heat stress.

Most sports drinks are designed to replenish glucose, fluids, and electrolytes (sodium, potassium, magnesium, calcium) lost during strenuous exercise or heavy workloads. Sports drinks may contain carbohydrates in the form of sugar, usually glucose, high-fructose corn syrup, or sucrose. Some contain no sugar and are "sweetened" instead with low-calorie sweeteners. The amounts of sugar and electrolytes in sports drinks are intended to allow for quick hydration and absorption.

It is important to note, persons with diabetes should be mindful of not intaking amounts of sports drinks that are high in sugar that could raise blood sugar to unhealthy levels. Additionally, persons with high blood pressure should be mindful when drinking sports drinks that are high in sodium – most are. Persons who eat a healthy diet should have enough glucose and electrolytes to maintain their health, even during extra activities and with proper water intake. Some studies show drinking too many sports drinks, especially when not performing vigorous exercise, can increase the risk of overweight/obesity and other health issues such as type 2 diabetes, cardiovascular disease, gout and the risk of dental cavities.

Water is the best choice to stay hydrated and it is the responsibility of each individual person to be sure they drink enough water to maintain their proper health.

NEWA Disease and Insect Forecasting System

Plant & Pest Advisory- May 20, 2024- Andy Wyenandt

Since 2011 the vegetable working group has teamed up with Cornell University's NEWA to bring tomato and potato late blight and early blight forecasting to vegetable growers through out New Jersey. Over 50 weather stations from Sussex to Cape May County now offer disease as well as insect forecasting services for numerous important pests.

The website managed by the New York state Integrated Pest Management (IPM) program and Cornell University can be found at <http://newa.cornell.edu/>. Just click on the map and scroll down to New Jersey and chose a weather station within the closest proximity to your operation. Once you choose a location a new web page will appear with the different forecasting options to choose from. For example, clicking on the potato early blight will automatically generate daily and accumulative P-day values for you for that location. Remember once 300 P-days are accumulated, spray programs for early blight control should be initiated. Clicking on either tomato or potato late blight will bring up a table which will provide daily rainfall, average temperature, hours above 90% RH and daily and accumulative DSV values for that location. One important thing to remember for the disease forecasting is to track the accumulation of DSV or P-day values based on when you transplanted tomatoes or when potatoes emerged on your farm. To track the progress of Late blight in the US please visit <http://usablight.org/>.

Controlling Anthracnose and Alternaria Leaf Blights in Cucurbit Crops

Plant & Pest Advisory - June 7, 2024 - Andy Wyenandt

Anthracnose and Alternaria leaf blight can become problematic in cucurbit crops during long periods of wet, humid weather. Both can cause significant losses if not controlled properly. With the production season in full swing, now is a good time to review a few of these important diseases.

Anthracnose, caused by *Collectotrichum orbiculare*, and Alternaria leaf blight (*Alternaria cucumerina*) produce distinct spots on infected leaves, and in most cases, symptoms begin on the older leaves. With Alternaria, diagnostic concentric black rings will develop within the spots on infected leaves, often there is a chlorotic (yellow) halo around margins. With Anthracnose, spots always develop on veins on the underside of infected leaves. Often, black setae (hair-like projections) will develop on the veins of infected tissue. These symptoms make for easily diagnosing which disease might be present.

Both pathogens can overwinter on infected plant tissue in the soil for 1 to 2 years, thus extended crop rotations are important. Conidia (spores) develop from dormant mycelium in the soil and are splashed into the canopy causing primary infections during prolonged periods of humid, wet weather causing extended leaf wetness. Secondary infections and spread of both diseases can occur during the production season under favorable conditions for disease development.

Deep plowing debris or the removing of plant debris after harvesting, avoiding overhead irrigation during the production season, and most importantly, choosing cucurbit varieties with resistance are important cultural practices all conventional and organic growers should consider.

Anthracnose and Alternaria are easily controlled with weekly protectant fungicides such as chlorothalonil and mancozeb as long as they are applied prior to the arrival of the pathogen and on a regular basis during favorable disease development. Organic growers can apply copper and other labeled products to help suppress development of these diseases. Complete foliar coverage is critically important for the control of these diseases.

For more information on the control of anthracnose and Alternaria leaf blight in cucurbit crops please see the 2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Additional Resources: University of Florida: <https://plantpath.ifas.ufl.edu/u-scout/cucurbit/alternaria-leaf-spot.html>—Images of Alternaria

University of Florida: <https://www.growingproduce.com/vegetables/aim-to-keep-anthracnose-out-of-your-cucurbit-crops/>— Additional information on anthracnose

University of MN: <https://extension.umn.edu/diseases/anthracnose-cucurbits>— Additional information on anthracnose of cucurbits

Diagnosing Collar Rot and Alternaria Stem Rot of Tomato

Plant & Pest Advisory- May 15, 2024- Andy Wyenandt

Collar rot (*Alternaria linariae*) or Alternaria stem rot (*Alternaria alternata f. sp. lycopersici*) of tomato are common in young tomato plants. Either can be particularly troublesome in seedlings that have been held in transplant flats for an extended period of time before transplanting in hot, humid greenhouses. Collar rot infections often start where a leaflet branch has been broken or pruned which allows a point of infection. Symptoms of Alternaria stem rot include brown circular to irregular lesions on stems with definitive concentric black rings (very similar to Early blight on infected leaves).

Symptoms of Collar rot are similar and may or may not produce concentric black rings. Infections that start in the greenhouse may lead to losses in the field as stems become girdled causing the plant or branches to wilt and die. Most commercial tomato varieties have resistance to Alternaria stem rot. While resistance is lacking to Collar rot, growers should choose varieties with Early blight resistance. Fungicides used to control Early blight are also effective against Collar rot.

Bacterial Leaf Spot Control and Copper Resistance in Pepper and Tomato

Plant & Pest Advisory - May 31, 2024 - Andy Wyenandt

Copper resistance in bacterial leaf spot of tomato and pepper crops has been detected at a high level in New Jersey the past few summers. While not surprising, copper resistance has been known to develop for decades now. Copper applications for the control of bacterial diseases in many crops has been a mainstay for decades now and is often applied in weekly protectant fungicide programs. With help from Dr. Nrupali Patel and Dr. Don Kobayashi, bacteriologists in the Department of Plant Biology located on the New Brunswick campus, a (NJ-VGA funded) survey was initiated to determine which species of bacterial leaf spot are most prevalent in New Jersey tomato and pepper crops. Bacterial leaf spot can be caused by four species of *X. anthomonas*: *X. euvesicatoria*, *X. vesicatoria*, *X. perforans*, and *X. gardneri*. Currently, there are four races of BLS found in tomato (T1-T4; one for each of the 4 species stated above) and eleven races found in pepper (0-10). Differential tests in southern New Jersey using various bell pepper lines over the past 15 years has suggested that the number of races of BLS in pepper has increased over time; with all races present in the State to date. Lab testing results from samples collected from the small number of NJ vegetable farms the last three summers has shown the presence of *X. euvesicatoria* in pepper, as well as *X. euvesicatoria* and *X. perforans* in both tomato and pepper in the state, with ~60% of all samples testing positive for copper resistance.

How do you know what species of bacteria are present on your farm?

The only way to determine which species of bacteria are present in tomato or pepper crops on your farm are to have them identified through laboratory methods.

How do you know what races of the pathogen are present on your farm?

That's a difficult question to answer. Up to now, the only way to know is through differential testing. That means planting a number of different bell peppers with varying BLS resistance packages and monitoring which cultivars develop symptoms. For example, if you detect BLS development in 'Aristotle X3R' (which has resistance to races 1,2, & 3); then you possibly have races 4-10 present on your farm. If you were to plant 'Turnpike' in that same field and you have BLS development in it, then you possibly have race 6 or 10 present, because 'Turnpike' has resistance to BLS races 0-5 and 7,8,9. It's extremely important to know what races of BLS are present so you can chose the proper cultivars to grow. Choosing the proper cultivar will do two things: significantly reduce the chances of BLS development and significantly reduce the number of copper applications on your bell pepper crop. As a note, there are a few non-bell peppers available with BLS resistance packages (see the 2024/2025 Commercial Vegetable Production Recommendations Guide).

How do you know if copper resistance is present on your farm?

Growers who have used copper applications for controlling bacterial leaf spot in crops such tomato or pepper for many years should always monitor for efficacy. If you notice or have noticed a loss in copper efficacy over time, then there is a good chance copper resistance is present. Once copper resistance is detected, further applications will be unwarranted and ineffective. The only method to truly determine if copper resistance is present is through laboratory testing, however growers who pay close attention to efficacy should have a good idea if copper is still effective.

What can you do to mitigate bacterial leaf spot development on your farm?

In crops such as bell pepper, it comes down to growing cultivars with resistance to BLS and knowing what races are present on your farm. Many of the recommend commercial cultivars have varying resistance packages to the different races of the pathogen. Some cultivars, such as 'Paladin' which has Phytophthora resistance has no resistance to BLS. Other "older"cultivars such as Aristotle X3R has resistance to races 1-3; newer cultivars such as 'Turnpike' has resistance to races 0-5,7-9; while cultivars such as 'Playmaker' and 9325 have resistance to 0-10 (also known as X10R cultivars). Unfortunately, BLS resistance in commercial tomato varieties are lacking, but efforts from around the world are making progress.

Moving forward in 2025. More sampling and surveying are planned for the 2025 production season in New Jersey. Growers who are interested having tomato or pepper samples collected from their farm for species determination and copper resistance testing are encouraged to contact their county agent so arrangements can be made. For more information on this research and control options visit <https://plant-pest-advisory.rutgers.edu/wp-content/uploads/2022/04/Update-on-BLS-survey-2022.pdf>.

Preparing for Pepper Anthracnose

Plant & Pest Advisory - June 8, 2024 - Andy Wyenandt

Pepper anthracnose caused by *Colletotrichum spp.* has become a significant problem on some farms in southern New Jersey.

Unlike in tomato, where symptoms are only present in mature (red) fruit, pepper anthracnose can infect pepper fruit at any growth stage. Currently, there are no commercially-available bell or non-bell peppers with known resistance to anthracnose. The pathogen overwinters, albeit, not very well on infected pepper fruit left in the field or on infected plant material at the end of the production season. Because pepper anthracnose does not overwinter very well, it always starts out as a 'hot spot' in the field and then fans out directionally with the prevailing direction of the wind and driving rain. Hot weather along isolated afternoon and evening showers are ideal conditions for anthracnose development.

On farms with a history of pepper anthracnose, precautions should to be taken each year. The first, if possible, is to rotate away from those areas of the farm with anthracnose for as long as possible. Remember, it can survive (although not very well) in the soil for many years. Importantly, the same pathogens that cause tomato anthracnose and strawberry anthracnose are the same species that infect pepper, so rotating away from fields heavily used in tomato and/or strawberry production is extremely important. Fields need to be scouted as soon as fruit start to develop to locate 'hot spots'. If 'hot spots' are found, all fruit from the immediate and surrounding area need to be strip-picked (or entire plants can also be removed). Growers who have adopted this practice have had success in reducing their losses by reducing the inoculum pressure before the pathogen begins to fan out across the field. Overhead irrigation should not be used in fields with anthracnose problems.

Reducing the amount of inoculum in the field is critical for managing pepper anthracnose. Infected fruit left in the field during and after the production season have the potential to act as a source of inoculum. Therefore, it is critically important to take the appropriate steps to help reduce that chance. During the season, all infected fruit need to be removed from the field. After harvesting, all fields should immediately mowed or hit with gramoxone. All plant debris should be thoroughly worked back into the soil so it can start to break down as quickly as possible. Abandoned fields with plants still standing going into the fall/winter only act as an increased source for inoculum. It's a misnomer to think that the cold winter weather will help breakdown and reduce inoculum found on infected plant material left on the soil surface. It's much better if infected plant material is worked back into the soil where other soil microorganisms can help with the process.

Fungicide programs do work for controlling pepper anthracnose. Fungicide programs should begin as soon as plants start to flower. The key to controlling anthracnose is to get the fungicide to where it is needed the most, on the developing fruit. Planting peppers in a single or double-row fashion may greatly affect your ability to control the disease. Your fertility program may also affect your ability to control the disease. Fertility programs high in N that promote tall, lush, dense canopies will greatly impact how much fungicide gets to where it needs to be. Growers should apply high rates of trichloroethane or manzate in a weekly rotation; or tank mix either with azoxystrobin (11); Cabrio (pyraclostrobin, 11); Priaxor (fluxapyroxad + pyraclostrobin, 7 +11); Quadris Top (3 + 11); Aprovia Top (3 + 7); or Topguard (flutriafol + azoxystrobin, 3 + 11) with a high volume of water (50 gal/A +) to ensure adequate coverage. Organic growers need to be extremely diligent with proper crop rotations, regular scouting to detect 'hot spots' early and make sure to remove all potential sources of inoculum. Weekly OMRI-approved copper applications may help suppress anthracnose. Other organic products have shown little or no efficacy against pepper anthracnose.

For more information please see the 2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Controlling Rhizoctonia Root Rot

Plant & Pest Advisory - May 27, 2025 - Andy Wyenandt

Rhizoctonia root rot has been reported over the past week. Rhizoctonia root rot, caused by *Rhizoctonia solani*, is an important soil-borne fungal pathogen with a very large host range. The pathogen can survive saprophytically on living or dead plant material (organic matter) or as sclerotia in the soil (for more than 3 years). Disease development is favored by warm temperatures, dry (or very well drained) soils and stressed plants. Symptoms of Rhizoctonia root rot may begin as stunted plant growth (with poor root systems) with the appearance of brown lesions at the base of the stem causing wilting with lesions eventually girdling the stem and killing the infected plant. Rhizoctonia root rot infections only extend about an inch above the soil surface, unlike *Phytophthora* blight infection which can extend much farther up the stem.

Additionally, in root systems infected by Rhizoctonia, the outer cortex of the root system won't slough off, like it does with *Pythium* root rot infections. Under ideal conditions, the mycelium of the fungus growing can be seen with a 10x hand lens growing along the root surface. Rhizoctonia produces distinct, brown hyphae that almost always branches at nearly 90 degree angles and is a diagnostic feature of the fungus. Rhizoctonia root rot often shows up in transplant production when plug trays are held on the dry side for extended periods, often when growers reduce water to control transplant growth. Infected transplants may not show symptoms until after they are set in the field. Infected transplants or plants infected shortly after transplanting often remain short and stunted with poor root systems compared to healthy plants. This most often occurs when the top of transplant plug has not been sufficiently covered over by soil, the lack of water used in setting the transplant, or when drip irrigation systems have not been hooked up and the soil less media becomes excessively dry for a period of time after transplanting.

Control of Rhizoctonia root rot begins with recognizing its symptoms, so as not to confuse it with other soil-borne diseases, proper watering and irrigation pre-, at-, and post-transplanting, and preventative fungicide control measures post transplanting. For more information on the control of Rhizoctonia root by crop please see the 2024/2025 Commercial Vegetable Production Recommendations Guide.

Diagnosing Pith Necrosis in Tomato

Plant & Pest Advisory - June 9, 2024- Andy Wyenandt

Symptoms usually begin to appear on random plants throughout the field as green fruit begins to mature. The bacterium (*Pseudomonas corrugata*) is ubiquitous to soils and develops when weather conditions (cooler nights/very hot, humid days) and cultural practices (i.e., excess heavy N use) lead to favorable conditions for disease development. Symptoms include the development of irregular greasy (at first), brown lesions on main stems and branches. Late pruning (i.e., suckering) can provide entry points for the bacterial disease. Internally, stems will become chocolate brown and mushy. High humidity is necessary for disease development. High nitrogen and lower night temperatures are associated with Pith Necrosis development. Control begins with cultural practices such as avoiding working in fields with wet foliage, avoiding late pruning, tying when plants are wet, and watching the amount of N applied to plantings. Infected plants can be rouged from field and most often it does not spread to nearby uninfected plants.

Preparing for Important Fungal Diseases in Asparagus during the Summer

Plant & Pest Advisory - June 4, 2024 - Andy Wyenandt

Asparagus growers should consider scouting their fields regularly during the summer months for foliar disease development. Important pathogens that growers need to scout for on a regular basis include Purple spot, *Cercospora*, and Rust. These pathogens are easily diagnosed by the characteristic symptoms they produce on infected plants. Purple spot lesions can appear on the spears during the harvest season and reduce quality, as well as, on fern growth later in the summer months. Characteristic symptoms of Purple spot include small (1 to 2 mm) slightly, sunken elliptical reddish-purple lesions on spears and ferns. *Cercospora* produces small tan lesions with darker margins on ferns and stems. Damage to ferns can cause premature defoliation which will reduce carbohydrate flow and reduce yield for the next growing season. Chopping the fern and incorporating the debris in the fall after the fern senesces can help destroy overwintering sources of the inoculum, however these practices may also lead *Fusarium* infection. Once fern stalks are full-size and/or disease is detected, fungicide applications of chlorothalonil (FRAC code M5) in rotation with azoxystrobin (FRAC code 11) should be repeated every two to four weeks until frost.

Rust is another important pathogen of asparagus. Rust can easily be diagnosed in the field early in the season by the cream-colored oval lesions (6 to 19 mm) it produces. A few weeks later these lesions will appear reddish-brown. These reddish-brown lesions can produce spores which can cause more infections leading to further disease development. Control of asparagus rust is extremely important and necessary in one and two year old beds, even with rust resistant varieties. Growers need to scout for symptom development in cutting and non-cutting beds and, if not already started, apply fungicides if necessary. Fungicide applications of chlorothalonil (M05), Folicur (tebuconazole, 3), mancozeb (M03), or Rally (myclobutanil, 3) rotated on a 7 to 10 day schedule will help control rust.

For more information on controlling these important diseases please see the 2024/2025 Mid-Atlantic Commercial Vegetable Production Guide.

Controlling Septoria Leaf Spot and Bacterial Leaf Blight in Parsley

Plant & Pest Advisory - May 27, 2024 - Andy Wyenandt

Septoria leaf spot (SLS) in Parsley can cause significant losses in fields where it has become established. Like other *Septoria*'s, the leaf spots produced on parsley look much like the leaf spots produced on tomatoes and other crops. *Septoria* leaf spot overwinters from year to year on infected debris so long crop rotations of 2 or more years are important to help reduce disease pressure. During the season, SLS will spread rapidly with each subsequent rainfall and/or overhead irrigation event. Therefore, early detection and preventative fungicide applications are key to successfully controlling SLS. There have been a few new fungicides labeled for SLS control in the past few years.

To help reduce disease pressure from bacterial and fungal diseases, rotate with non-related crops for at least 2 years. Space successive plantings in the same year as far apart as possible. Heavy winds and rain may damage leaves and predispose leaves to bacterial infections.

Bacterial leaf blight: Prevention is key. Avoid working in the fields while the foliage is wet to help reduce spread. Scout fields on a regular basis for early symptoms, apply fixed copper at labeled rates with regular maintenance applications for leaf spot diseases and repeat every 7 days. Some copper-based products are OMRI-approved and can be used in organic production systems for the suppression of bacterial and some fungal diseases.

Septoria leaf spot: Early detection and prevention are key. Scout daily, and apply fungicides preventatively before first leaf spots appear. Early season infections (i.e., prior to first cutting) will severely reduce subsequent harvests.

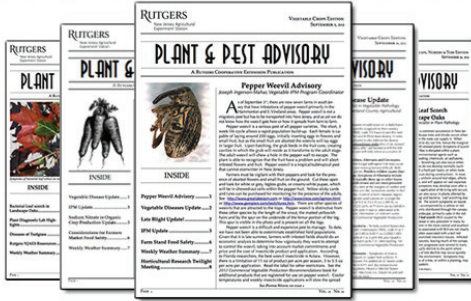
For more information on controlling these diseases, please see the parsley section in the 2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations Guide.

Plant & Pest Advisory

<https://plant-pest-advisory.rutgers.edu/>

timely • seasonal • focused • free

The Plant & Pest Advisory provides seasonal updates focusing on insects, diseases, and weeds of importance to NJ Commercial Growers.



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<https://plant-pest-advisory.rutgers.edu/contact-information/rss-2/>

Production and Pesticide Recommendations on this site are for commercial operators and are NOT for home gardener use.

Find home gardening information at the NJAES Home, Lawn, and Garden website or NJAES Gardening and Landscaping Fact Sheets & Bulletins.

May Invasive Species of the Month: Wisteria

Michele Bakacs and Jean Epiphan - May 9, 2025 - Rutgers NJ Agricultural Experiment Station Environmental Stewards

For full article check out:

<https://envirostewards.rutgers.edu/2025/05/09/may-invasive-species-of-the-month-wisteria/>

Calendar of Events

- **July 12-15, 2025**
AmericanHort-Cultivate for additional information. Visit cultivateevent.org
- **July 21, 2025**
New York State Flower Industries tour of Farmstead 1868. Tour the farm's lavender fields and production area NYSFI annual meeting to follow. Pre-register at tinyurl.com/425dtx69.
- **July 29, 2025**
UNH Coop. Ext. Webinar - Bacterial Leaf Spots: Diagnosis and Management 6:30-8pm \$10. Contact Jonathan.Ebba@unh.edu or 603.749.2529. Register at tinyurl.com/36aphs56.
- **August 12-13, 2025**
The Garden Center Show Rosemont, IL. visit gardendcentershow.com to learn more.
- **August 12-14, 2025**
Penn State Ag Progress Days
Rt. 45, 9 miles SW of State College – agprogressdays@psu.edu
- **August 26, 2025**
UNH Coop. Ext. Webinar -Ultra Low Volume Sprayers- Are Foggers Right for You? (Calibrating & Mixing) 6:30-8pm \$10. Contact Jonathan.Ebba@unh.edu or 603.749.2529. Register at tinyurl.com/4d4v49mn.
- **September 13, 2025**
Rodale Institute Workshop: Regenerative Landscaping And Design 10am- noon. Rodale Institute Founders Farm, 2056 Minesite Rd. Allentown, PA Cost \$35 per person / \$60 for tow people. Register at tinurl.com/2s688n6a.

Regularly Scheduled Meetings

Locations for Pesticide Recycling Containers

Salem County

Helena Chemical
440 N. Main St.
Woodstown, NJ
6/20/25

Atlantic County

Helena Chemical
66 Route 206
Hammonton, NJ
6/13/25

Monmouth County

Rutgers Fruit and Ornamental
Research Extension Center
283 Route 539
Cream Ridge, NJ
6/27/25

Cumberland County Agriculture Development Board

Virtual Meetings Information
can be found on the
Public Meeting Calendar on
cumberlandcountynj.gov/

Meetings are held on the 3rd
Tuesday of each month.
Meetings start at 6 p.m. at
Rutgers Cooperative Extension
291 Morton Avenue
Millville, NJ 08332

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

Chair: Al Caggiano, Jr

Commissioner Liaisons:
Victoria Groetsch-Lods
Antonio Romero

Cumberland County Board of Agriculture

Meetings are held on the
3rd Thursday,
September - May at
Rutgers Cooperative Extension
291 Morton Avenue
Millville, NJ 08332

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

President: Timothy Eachus

Commissioner Liaisons:
1. Victoria Groetsch-Lods
2. Robert Austino

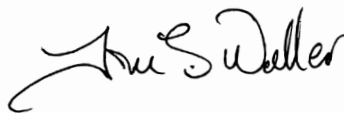
Meeting Times Vary by Month:
September & October - 7 PM
November, December, January,
February, & March - 6 PM
April & May - 7 PM

Cumberland County
For more information call
Timothy Eachus.

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.



RUTGERS UNIVERSITY
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of Cumberland County**
New Jersey Agricultural Experiment Station

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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