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GARDENS SCOUTED FOR THIS REPORT: Morris County Park Commission's Community Garden in Morristown, ValleVue Preserve Community Garden in Morris Township, and Madison Community Garden.

GENERAL OBSERVATIONS AND TIPS

Planning and planting for the fall season

Although we are only halfway through the warm weather vegetable season, it is not too early to think about the fall season. New Jerseyans are fortunate to have a three season growing climate. Growing the correct vegetables allows one to start planting in March and continue growing until December. Due to the shortening of daylight hours and dropping temperatures, not all vegetables qualify for fall planting. However, the number of crops that do qualify are varied and some of the most popular.

Cold weather vegetables consist mainly of brassicas, root vegetables, and leafy plants. Some of the most popular are lettuce, arugula, spinach, radishes, kale, broccoli, cabbage, beets, carrots, turnips, and Bok choy. Deciding when to plant fall crops depends on when the first frost date occurs in your location. For northern New Jersey, the average first frost date is October 15th. Subtracting the number of days from germination until maturity from October 15th is a good starting date and will assure that you will get a full harvest. For many of the brassicas, due to their ability to convert starches into sugars, they become sweeter after the first frost. Many of the fall crops will survive temperatures down to 28 degrees and may even overwinter. The biennials, which complete their life cycle in two years, have a greater ability to survive colder temperatures. Because the start date for many of the fall vegetables will be in August, certain varieties of leafy vegetables may experience poor germination due to high soil temperatures. Many of the lettuce varieties will have better germination rates at 45 degrees than at 85 degrees. Therefore, one might consider starting the seed indoors and transplanting once the plants have produced secondary leaves. If starting seeds indoors is not possible, then putting a shading cloth over the seeded area should help. If space is at a premium, interplanting between existing summer crops in August should allow for seed germination, and full development once the summer crops are removed in September.

Rather than put your vegetable bed to rest after the summer crops are past maturity, try planting fall crops and extend your production for another season. It's not too late to start planning.

References:

- Michigan State University: https://www.canr.msu.edu/uploads/files/E3172_-_Fall_Vegetable_Crops_for_your_Garden.pdf
- Penn State Extension: <https://extension.psu.edu/season-extenders-and-growing-fall-vegetables>

REPORTS ON NEW PROBLEMS

Problem: White Rot in Garlic (*Sclerotium cepivorum*)

Where: Morris Twp. Community Garden 6/27/23

Description: Garlic can be a very easy-to-grow herb in the garden; however it is also prone to several diseases. One of those diseases, white rot (*Sclerotium cepivorum*), was found in garlic plants in the Morris Township Community Garden. White rot is a destructive disease that causes symptoms of stunting, yellowing, and dieback of foliage. When bulbs are dug out of the soil they are either coated with a white to gray colored fuzz (mycelium) or with a crusty covering that is embedded with tiny black poppy-seed sized sclerotia (reproductive structures). White rot can live in the soil for indefinite periods of time.

Management:

- Buy certified disease-free garlic seed. Never plant garlic purchased from a grocery store because it may be a symptomless carrier of disease.
- Remove and dispose of infected plants. Do not compost these plants.
- Allow adequate spacing of plants.
- Do not plant garlic, onions or other members of the allium family in the infested soil again for at least a couple years.
- Sanitize tools before using them again in another garden area to avoid spreading the disease. A 10% bleach solution can be used to sanitize tools.
- Gardeners with previous white rot can try using a garlic powder treatment of 4.5 ounces of garlic powder per 100 square feet with half applied to the soil in October and half in March. The powder should be incorporated to a depth of 6 inches to help kill the overwintering spores by stimulating them to germinate with no real host.

White Rot disease on garlic



Note the soil sticking to bulb, white mycelium and black poppy-seed sized sclerotia.

Photo: P. Nitzsche, NJAES

White rot disease on garlic plants



Several brown, stunted garlic plants with white rot are in the first row of this raised bed.

Photo: M. Albright, NJAES

Fact Sheet / References:

- Cornell University, <http://plantclinic.cornell.edu/factsheets/garlicdiseases.pdf>
- Cornell University, https://rvpadmin.cce.cornell.edu/uploads/doc_480.pdf
- University of Maine, <https://extension.umaine.edu/publications/wp-content/uploads/sites/52/2020/03/2062.pdf>

Problem: Early Blight on Tomato
(Alternaria linaria)

Where: Madison Community Garden (7/4)

Description: Early blight is a very common fungus which affects the leaves and fruit of tomatoes and sometimes eggplant. The infection starts as circular irregular brown spots on the older leaves. Over time the area surrounding the brown spots becomes surrounded by yellowing tissue which will eventually cause the leaf to drop. If the infection is severe enough, it can cause major leaf drop which may lead to reduced production of fruit and sun scalding.



Early blight on tomato plant leaf
Photo: B. Monaghan, NJAES



Early blight characteristic concentric brown lesion and yellow halo.
Photo: Rutgers Fact Sheet 547



Early blight causing rot on petal end of infected tomato fruit
Photo: P. Nitzsche, NJAES

Management:

- Drip irrigation, avoid overhead watering and water at base. Water early in the day to allow plants to dry quickly.
- Mulch with landscape fabric or straw early to prevent the fungus from splashing up onto the plant. Use hardwood mulch for paths only.
- Good air circulation, provide at least 18" spacing between plants. Fungal diseases like moist, humid conditions.
- Stake or cage plants to limit foliage and fruit contact with the soil.
- Crop rotation of three years or longer. Try planting cultivars with some resistance such as Juliet, Mountain Magic, Jasper, Iron Lady, or Verona.
- Remove all plant debris since fungal spores of the disease can overwinter in infected plant material.
- Control weeds.
- There are some organic copper-based fungicides that can help prevent the disease. Be sure the product label includes the plant and disease and follow all instructions on the label.

References:

- Rutgers University Fact Sheet FS547 <https://njaes.rutgers.edu/fs547/>
- Rutgers University Breeding Program <https://breeding.rutgers.edu/tomatoes/>

Japanese beetle

Where: Morris Township Community Garden (6/30)

Description:

This serious pest of flowers, trees and shrubs, fruits, vegetables, field crops and turf has returned to the gardens. Adults feed on more than 300 plant species, while the grubs feed mainly on the roots of grasses. This beetle is native to Japan and was first reported in the United States in 1916 in New Jersey. Currently, they are established from Maine to Georgia and in nearly every state east of the Mississippi River and several mid-western states. Beetle larvae (white grubs) have brown head, crème body and appear “C” shaped. They overwinter in the soil, actively feed on roots and emerge as flying adults when spring soil temperatures warm. These adults then feed on leaves and shoots over a four-to-six-week period. Adults are 9/16 of an inch in length and metallic green with coppery-brown wing covers (called *elytra*). Adults usually feed on tissue between leaf veins, resulting in leaves with lace-like or skeletonized appearance. They are most active during warm days, feeding on plants exposed to full sun throughout the day. Japanese beetle adults start feeding at the top of plants, migrating downward after depleting food sources.



Typical damage caused by adult beetles found at top of plant. Skeletonized leaves are telltale signs of recent activity. Adults assemble in masses and are often found mating.



IPM Team member, Mary Olin, demonstrates easy mechanical method of beetle removal from rhubarb plant.

Use cup of soapy water and simply shake off beetles into container. Dispose of remains, but get ready to begin anew, as they can be prolific. Handpicking can also work if you are so inclined.

Top plant choices of feeding are rhubarb, beans, tomatillo, grapes, peach, plum, cherry, rhododendron, roses, and many other ornamentals.

Photos: J. Basile, NJAES

Management:

- Handpick Japanese beetles daily in the morning or evening when air temperatures are cooler. Collect them in a jar or bucket of soapy water or rubbing alcohol (70% isopropyl alcohol).
- Pheromone traps can be problematic, since they actually attract more than they can capture.

References

- Rutgers University <https://njaes.rutgers.edu/fs1009/>
Rutgers University <https://njaes.rutgers.edu/pubs/publication.php?pid=FS293>
- University of Minnesota [Japanese beetles in yards and gardens | UMN Extension](#)

**Squash vine borer adults and eggs
(Melittia satyriniformis synonym M. cucurbitae)**

**Where: Morris Township Home Garden
Adults (6/28), Eggs (7/8)**

Description:

Squash vine borers are a significant pest of squashes and pumpkins and a lesser pest of cucurbits and melons. Frass, which is greenish / yellow excrement, indicates that borers are feeding and tunneling inside the stems of the plants. If the borer(s) are not removed, they will cause the plant to wilt and later die. Use row cover now for any new direct seeded or planted zucchini or squash.



Frass (excrement) from squash vine borer on squash plant stem.

Photo: M. Albright, NJAES



Squash vine borer inside a stem.

Photo: P. Nitzsche, NJAES



Squash vine borer adult.
Photo: Rutgers Fact Sheet #229



Squash vine borer eggs on a zucchini plant leafstalk. The eggs are very small and copper colored.

Photo: Mary Albright, NJAES



Enlarged view of the eggs in the photo to the left.

Management:

- Watch for adults and destroy them.
- Scout plants for the small copper-colored eggs. Tapping the eggs with the sticky side of tape will remove them. The eggs can be found at the base of the plant, the stems, the leafstalks, and sometimes on the fruit and leaves.
- If frass (excrement) is seen, cut a longitudinal slit halfway through the vine above the frass to find and remove the borer. If there are multiple locations with frass, there may be multiple borers.
- Remove infested vines that cannot be saved to prevent the borers from overwintering and remove all vines once the plants have stopped producing fruit.
- Floating row covers can be used early in the season to keep adults from laying eggs on the plants. The covers need to be removed when the plant flowers to allow for pollination. If row covers are used, don't plant near locations that had borers the previous year, since adults could emerge from the soil under the row cover.
- Spinosad (Captain Jack's Deadbug Brew and Monterey Garden Insect Spray) or *Bacillus thuringiensis* can be applied to kill the young larvae as they hatch from the eggs before they bore into the stem. The pesticides will not work once the larvae enter the stem. *****Read and follow all pesticide label instructions. Be cautious- Read the label.**

A study is being done at the Morris County Community Garden to determine if spraying the stems with *Bt* and injecting the stems with *Bt* will kill the larvae.

References

- Rutgers Fact Sheet: <https://njaes.rutgers.edu/pubs/publication.php?pid=FS229>

WEED SPOTLIGHTS

Horse Tail

(Equisetum arvense) **Madison Community Garden**

Common horse tail is a perennial related to ferns. It therefore does not bloom but instead reproduces by spores, and rhizomes. The rhizomes can grow as long as six feet, and due to this extensive rhizomal network, it can be very difficult to eradicate once established. Generally, horse tails prefer moist areas, but will tolerate most conditions. Eradication requires diligence starting early in the growing season and continuing until the first frost. Several years may be required to eliminate it.



Photo: NC State Extension



Horse Tail Madison Community Garden
Photo: Brian Monaghan, NJAES

References

- Native plant Trust <https://gobotany.nativeplanttrust.org/species/equisetum/arvense/>
- N C State Extension <https://plants.ces.ncsu.edu/plants/equisetum-arvense/>

ADDITIONAL RESOURCES

All Rutgers Gardening and Landscaping Fact Sheets & Bulletins

<https://njaes.rutgers.edu/pubs/subcategory.php?cat=5&sub=1001>

Rutgers Master Gardener Program <https://njaes.rutgers.edu/master-gardeners/>

Rutgers Soil Testing Laboratory <https://njaes.rutgers.edu/soil-testing-lab/>

Community Gardening Series <https://njaes.rutgers.edu/community-garden/>

Office of the New Jersey State Climatologist <https://climate.rutgers.edu/stateclim/>

Rutgers New Jersey Weather Network <https://www.njweather.org/>

Ticks and Tick-borne Disease <https://njaes.rutgers.edu/tick/>

Rutgers NJAES You Tube Channel <https://www.youtube.com/user/RutgersNJAES>

Report Editor: Brian Monaghan