RUTGERS
New Jersey Agricultural Experiment Station

Rutgers Master Gardeners of Morris County
Community Garden IPM Team Report #4
June 13, 2025

WHAT'S IN THIS REPORT		
TIPS	**NEW PROBLEMS SEEN**	**SPOTLIGHTS**
• Birds in the garden	• Adult Colorado potato beetles • Earwigs • Fungal diseases of tomato and potato plants • Slugs • Orange rust on blackberry plant	• Soldier beetles • Galinsoga

IPM Team Reports

The Morris County Rutgers Master Gardener Integrated Pest Management (IPM) Team scouts one or more community garden(s) each week. Every other week the team provides IPM Team reports on problems it first observed during the two-week period. These reports contain summary descriptions, management methods, and research-based references for more information.

Refer to Rutgers Fact Sheet 1123 and 1124 for all recommended controls for insect and disease pests. They are valuable resources throughout the growing season:
Rutgers Fact Sheet on Vegetable Insect Control: https://njaes.rutgers.edu/fs1123/
Rutgers Fact Sheet on Vegetable Disease Control: https://njaes.rutgers.edu/pubs/publication.php?pid=fs1124

The gardens scouted by the IPM Team include the Morris County Park Commission Community Garden, the Morris Township Ted Largman Community Garden, the Madison Community Garden, the Wick Garden in Jockey Hollow National Park, and the Randolph Community Garden. The team also reports on sightings in the Pequannock Community Garden and their own vegetable gardens.

GENERAL OBSERVATIONS

The gardens are beginning to come to life. We've seen lush heads of lettuce and abundant peas and ripe strawberries on our recent walks. Cool season plants lasted a little longer this year with some cold rainy weather in May. Now that it's getting warmer, keep an eye on your greens. Many are starting to bolt or will be soon.

It's been a bit of a challenging planting season in Morris County so far. It seemed the weather was either too hot or too cold or too wet for planting warm season vegetables. If you waited for the perfect day to plant, you may not have much planted. If you followed our advice from an earlier IPM report to be patient about planting your tomatoes etc., you may have ended up planting them during one of the recent hot spells. The swings in weather and moisture are very stressful for young seedlings, so coddle them a bit until they have recovered from any transplant shock. If it gets hot and dry suddenly, water them deeply to help in the adjustment to the heat. If you planted earlier in May, hopefully you protected your seedlings from the recent cold weather. If not, you may want to plan to cover early plantings next year depending on the weather.

The plant on the left below was planted early but protected from the cold while the plant on the right had no protection from recent cold nights.

	Photo: M. Sample, NJAES		Photo: M. Sample, NJAES

Many of the tomato and pepper plants we've seen appear to have struggled in the recent cold nights and temperature swings.

As the temperatures warm up (or heat up), gardens should grow more quickly. Many weeds and pests also flourish in warmer temperatures. Pulling weeds early and/or mulching can help prevent bigger weed issues later in the season. Though we have not had many new sightings in the past few weeks, keep vigilant for new pests so you can act before they become a serious issue.

Some problems to watch out for are Mexican bean beetles, squash vine borers, squash bugs, white rot on garlic, and bacterial leaf spot on peppers. Fungal diseases have already been seen on tomatoes and potatoes. If the weather remain wet, be vigilant in checking for their appearance in your plots.

There's still time to plant some summer crops, but that window is closing fast. Now's the time for succession plantings of beans, cucumbers, summer squashes, carrots, and the like.

Happy gardening!

TIPS

Birds in the Garden

If you're like many gardeners, you enjoy spending some time looking at your produce garden and observing nature. Some of my favorite garden sights are the birds that seem attracted to the sunflowers I grow and the compost heap. Watching their grace and agility is mesmerizing.

I also like to think that in between munching on sunflower seeds and compost tidbits that they dine on some garden pests. Many birds eat a range of insects which might include the larvae of grubs, aphids, earwigs and Japanese beetles. Some birds also aid in pollination and birds that peck the soil can help aerate it.

On the other hand, I really don't want them to damage or eat my produce.

When you read about birds in the garden, you see articles on encouraging birds to frequent your garden and some on how to deter them from visiting your garden. In a community garden, you don't make the decision about whether to encourage or discourage birds on your own.

My approach is to encourage their presence but try to protect my produce from serious damage. I find that ripening berries are a favorite treat. Some gardeners get a nice berry crop without a barrier preventing birds from eating their ripening berries, but I prefer not to take my chances. In the year that the netting over my blueberry bushes was seriously

damaged, I found bluejays inside the enclosure and got almost no blueberries. This year I'll be reinforcing the blueberry netting.

You can build your own enclosure for blueberries or other berries. The only requirements are that you use relatively small-holed netting, such as the appropriately named bird netting, that the netting material allows water and light to get through, and that there are no openings where the birds can get through. They're very good at finding small openings, even small gaps between the ground and the bottom of the netting. Ironically, they often seem to have trouble finding their way back out of the netting. This article gives information on how to build blueberry protection: https://www.umass.edu/agriculture-food-environment/home-lawn-garden/fact-sheets/bird-protection-for-blueberries-other-fruit

There are also lots of premade options available.

Now that I'm growing strawberries again, I've decided to cover the plants with a popup netting while the berries are ripening. After the berries are ripe, I'll remove the netting to allow the runners free reign. Of course, you could use bird netting or other small-mesh netting on a frame you make yourself, and for strawberries the protective netting doesn't need to be very high.

	Popup mesh covering strawberries Photos: M. Sample, NJAES		Floating row cover over strawberries		Undamaged fruit – the reward

Later in the season, birds sometimes turn their attention (and beaks) to ripening tomatoes. This seems to happen more frequently in dry weather; perhaps they are searching for moisture. I sometimes find a small hole in fruits just before they are completely red. Though they rarely eat a significant amount of the fruit, the hole they create can cause the fruit to rot before it fully ripens. If this is a problem, you can cover your tomatoes, but that could be a daunting task depending on the size of your tomato patch. I find picking the tomato fruit just before fully red ripe frequently prevents the birds pecking the tomatoes. After a day or two of completing their ripening safely inside, I find the taste just the same as a fruit completely ripened on the vine.

With a little bit of work to protect ripening fruits, I am able to enjoy watching the birds without concern for them seriously decreasing my yield. The benefits and beauty they provide far outweigh the minimal effort involved.

REPORTS ON NEW PROBLEMS

Insect: Colorado Potato Beetles ***(Leptinotarsa decemlineata)***	**Morris Township Community Garden (June 3) (Adults)**

Description: Adult Colorado potato beetles overwinter in the soil and emerge in early spring, laying bright, orange-yellow eggs in small clusters on the undersides of the leaves of host plants in the *Solanaceae* family. Both adults and their larvae will feed on the foliage of potatoes, eggplants, tomatoes, peppers, groundcherries, and other nightshade plants. The Colorado potato beetle is approximately 3/8 inch long and has a black and yellow striped body with an orange head. A second generation will emerge in late summer and then overwinter in the soil. If not controlled, they can reproduce rapidly and defoliate plants. Monitor and destroy to disrupt any future infestations.

Colorado potato adult with yellow eggs on the underside of leaf.
Photo: Rutgers University

Newly hatched red-orange larvae of Colorado potato beetle eating leaves. Shows whole leaf damage happens quickly.
Photo: Rutgers University

Adult Colorado potato beetle sitting on potato leaf.
Photo: M. Olin, NJAES

Management:

- Colorado potato beetle adults and larvae can be effectively hand-picked.
- Destroy beetles and their larvae by crushing or placing them in a can of water with a few drops of dish detergent. Be sure to scout under leaves for their yellow eggs and remove/crush them.
- Row covers can protect young plants and prevent the beetles from reaching crops.
- Rotate crops each year and plant Solanaceae family as far as possible from previously infected areas.
- A biological insecticide, *Bacillus thuringiensis var. tenebrionis*, is available (Novodor). This biopesticide uses a bacterium that kills small potato beetle larvae when used according to label directions.

References:

- Rutgers University: https://njaes.rutgers.edu/pubs/publication.php?pid=FS224
- University of Maryland: https://extension.umd.edu/resource/colorado-potato-beetle-vegetables

Insect: Earwigs *Note: Earwigs are both garden pests and beneficial predators (*insect order *Dermaptera)*	**Morris Township Community Garden (June 2)**

Description: Earwigs are night feeding insects that can be both pests and beneficial predators. As pests in the vegetable garden, they may feed on seedlings, plant leaves, flowers, soft fruit and corn silk. Leaves chewed by earwigs often have a ragged or shredded look. As beneficial predators, they feed on eggs and immature stages of insects, such as fleas and aphids, as well as snails and other slow-moving invertebrates.

Earwigs mostly feed at night and seek out dark, cool, moist places to hide during the day. Common hiding places are under loose clods of soil, boards, or dense growth of vines or weeds. The best way to identify whether they are causing damage in the garden is to look for them with a flashlight at night.

Earwigs make up the insect order *Dermaptera*. The adult earwig is identified by a pair of prominent forceps-like appendages at the tail end of its body. Most species have wings under short, hard wing covers, but they seldom fly. Immature earwigs look like adults except they are smaller and lack wings. The adult is about 3/4 inch long and reddish brown.

Earwig on horseradish
Photo: N. Gardner, NJAES

Holes in leaves of Swiss chard plant eaten by earwigs
Photo: M. Albright, NJAES

Male earwig
Photo: Iowa State University

Management:

- Earwigs can be trapped with a rolled-up newspaper, corrugated cardboard, bamboo tubes, or a short piece of hose. Place these traps on the soil near plants just before dark and shake accumulated earwigs out into a bucket of soapy water in the morning.
- Remove hiding sites for earwigs, such as weeds, piles of rubbish, and leaves. Mulches may also harbor earwigs.
- Natural enemies include toads, birds, and other predators. Chickens and ducks will consume many earwigs.

References:

- University of Connecticut: https://homegarden.cahnr.uconn.edu/factsheets/earwigs/
- University of California IPM: https://ipm.ucanr.edu/PMG/PESTNOTES/pn74102.html

Tomato and Potato Plant Diseases: Early Blight *(Alternaria linaria,* formerly known as *A. solani) &* Septoria Leaf Spot *(Septoria lycopersici)*	**Denville home garden (June 6) and Morris County Community Garden (June 9)**

Description: Septoria and early blight are common diseases seen in tomato plants in New Jersey. They can also infect potatoes. The diseases are caused by distinct pathogens but have a similar appearance. They thrive in similar conditions and can coexist. Management and prevention are the same. Both diseases usually begin on the lower, older leaves of plants. As the condition progresses, newer, higher leaves are affected, wither and defoliate. Prolonged wet humid weather is favorable to these fungi and allows the condition to worsen. The disease spores can overwinter on plant debris. Good cultural techniques can help prevent spread or at least slow its progress. Use of copper-based fungicide can work as a preventative, but it needs to be applied repeatedly. As with any garden chemical, read and follow the label instructions carefully.

Septoria leaf spot is a soil-borne fungal disease that only infects tomato leaves and stems. The spots enlarge to 1/8 inch in diameter and are distinguished by a dark brown edge with a white or gray center. As the disease progresses and more leaf spots develop, the areas surrounding spots will turn yellow causing leaves to wither and die.

Early blight is also a fungal tomato disease that thrives in wet, humid weather. It is wind-borne, soil-borne and can be introduced by purchased plants or infected seed. Early blight is characterized by a few (5 to 10) brown, circular spots up to half an inch diameter with concentric rings or ridges that form a target-like pattern surrounded by a yellow halo. As the disease progresses, stems and fruit also become infected forming dark, sunken spots. Dark, sunken cankers with concentric rings may also appear at or above the soil line on stems in the case of an *Alternaria* infection.

Over time, the plant leaf will yellow and the leaves drop. These diseases move from plant base to the top of the plant. Defoliation will reduce yield but also exposes fruit to sunscald. It's possible to get a good tomato yield if the disease(s) arrive late in the season, so use good cultural practices to delay onset and reduce speed of transmission.

There are some varieties on the market and in development that have some resistance to multiple fungal and bacterial tomato diseases. If you have an issue with early blight and/or Septoria this year, you may want to try one of them next year to see if they do offer disease resistance and how you like the taste. Be on the lookout for more info as these varieties are tried locally.

Septoria Leaf Spot (Rutgers Fact Sheet 547)

Septoria leaf spot on tomato leaves
Photo: M. Sample, NJAES

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

Early blight lesion on Brandywine tomato leaf.
Photo: M. Sample, NJAES

Management:

- Avoid overhead watering; use drip irrigation or water at the base of plants. 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.
- For 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.
- Practice crop rotation of three years or longer. Try planting cultivars with some resistance to early blight such as Juliet, Mountain Magic, Jasper, Iron Lady, or Verona.
- Remove all plant debris since fungal spores of the diseases 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 Fact Sheet 547: https://njaes.rutgers.edu/fs547/

Problem: Slugs and snails ***(members of the mollusk phylum)***	**Morris County Community Garden (June 9)**

Description: Slugs and snails are both members of the mollusk phylum and are similar in biology. A key difference is that snails have a shell. Both can damage plants, especially small ones, if present in sufficient numbers. They prefer moist environments and are more numerous where favorable habitat exists. Weedy areas, dense ground cover, boards, or even mulch provide ideal hiding places for them. Predators, such as toads, garter snakes, and some birds, can be helpful in managing their numbers.

Slug on lettuce

Same slug crawling away (on paper towel)

Photos: M. Albright, NJAES

Slug
Photo: P. Nitzsche, NJAES

Tawny slug on strawberry
Photo: University of California

Management:

- Eliminate, as much as possible, hiding areas such as weeds and debris.
- Provide adequate air flow around plants.
- Water in the morning and avoid overhead watering.
- Pull back mulch if the problem is severe.
- Try pitfall traps or bait such as beer.

References:

- Rutgers Fact Sheet 397: https://njaes.rutgers.edu/pubs/publication.php?pid=FS397
- University of California: https://ipm.ucanr.edu/QT/snailsslugscard.html

Problem: Orange rust disease on blackberry plant *(Gymnoconia nitens and Arthuriomyces peckianus)*	**Morris County Community Garden (June 9)**

Description: Orange rust, a fungal disease, is one of the most common diseases of blackberries and black raspberries. It does not affect red raspberries. Symptoms of the disease are spindly canes with misshapen, pale green to yellowish leaves. The leaves become covered with bright orange blisters on the underside of the leaves.

Even though infected plants do not usually die, harvest can be significantly reduced. Once infected, the plant cannot be cured.

Orange rust disease on blackberry plant leaves
Photo: C. Mathis, NJAES

Management:

- Management is primarily by removing the plant, including its roots, so the disease does not spread to other plants.

References:

- Purdue University: https://fff.hort.purdue.edu/article/orange-rust-in-brambles/
- Michigan State University: https://www.canr.msu.edu/news/its_that_time_of_year_for_orange_rust_in_brambles

BENEFICIAL SPOTLIGHT

Soldier Beetles
(Chauliognathus marginatus, Chauliognathus pensylvanicus)

Description: There are two common species of soldier beetles that you may come across in your garden if you are lucky. Both species are beneficial and play the same roles as pollinators and predators. They are commonly known as the margined leatherwing and the goldenrod soldier beetle. Attributed lengths are between a half to ¾ inches. Similar in color with black and orange markings, the margined leatherwing's color is muted compared to the goldenrod soldier beetle. Both have flat, elongated bodies with long legs and black, segmented antennae. Because of the dark and light striping on their segmented abdomen, some call them bee mimics. Others call them lightening bug mimics because of the visual similarities of the elytra (cover-wings), which have rounded tips that do not quite cover the abdomen. The elytra protect the transparent hindwings beneath. The hindwings are used for flying while the elytra are lifted out of the way.

Goldenrod soldier beetle with elytra down and raised for flight.
Photo: N. Walton, MSU Extension

Gardeners can become alarmed at the first sight of soldier beetles as they can be numerous. But not to worry. They will not eat or destroy your plants. Nor will they bite or sting. They are there to eat the pollen and nectar, pollinating as they move from flower to flower. At the same time, they are predators, snacking on aphids and other soft-bodied insects as they go.

Chauliognathus marginatus syn. margined soldier beetle, margined leatherwing

Margined leatherwing
Photo: M. Albright, NJAES

Margined leatherwing
Photo: L. Terraneo, NJAES

- Active late spring to early summer, May to June. One of these images was taken in the beginning of July.
- There is a light-colored margin on the edges of the elytra (cover wings) with a variable wing pattern as shown in these photos.
- The dark streak on the pronotum (thorax) can run from bottom to top. The pronotum on *C. marginatus* has a narrower appearance compared to *C. pensylvanicus*. On the head, the dark marking splits into two parts toward the eyes, with orange marking between.
- Legs are partially brown near the body and black below the first joint.
- Segmented brown abdomen with light edges on the top and lighter belly beneath.

Chauliognathus pensylvanicus syn. goldenrod soldier beetle, Pennsylvania leatherwing

Goldenrod soldier beetle
Photo: L. Terraneo, NJAES

- Adults are present July through September, known to be the most active in August.
- Brighter orange color with large oval spots at the tip of each elytron (cover wing).
- Pattern is more consistent although spots can vary in size.
- The dark spot on the pronotum (thorax) does not touch the edges.
- Their legs are mostly black.
- Segmented abdomen with yellow and black pattern mimicking a bee at first glance.

Goldenrod soldier beetle larva
Photo: N. Walton, MSU Extension

The adults, while busy eating pollen and nectar, will couple at the same time. The female lays her eggs under leaf litter and in the soil. Eggs hatch in 10 days, starting off tiny and white, becoming darker in color and increasingly active with each molt. The word "velvety" is often used to describe the larvae due to the dense bristles covering their bodies. As soil dwellers and nocturnal, they can be hard to see but occasionally you can catch one climbing a plant. They overwinter as larvae. Next season, when they are ready to pupate, they will build a shallow chamber in the soil. They will emerge as full-sized adults and start the process all over. There is one generation per year.

The larvae are strictly predators, with a broad diet that includes eggs of many species, soft bodied insects and small caterpillars. They have even been seen eating Colorado potato beetle eggs, grasshopper eggs, and codling moth.

References:

- Michigan State University: https://www.canr.msu.edu/news/michigan-insects-in-the-garden-season-2-week-11-cantharidae
- Virginia Cooperative Extension: https://blogs.ext.vt.edu/ag-pest-advisory/predator-profile-leatherwings-soldier-beetles/

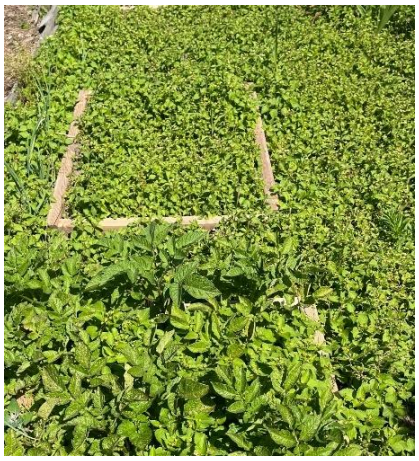
WEED SPOTLIGHT

Galinsoga spp., also called Gallant soldier and Quickweed

Description: *Galinsoga* is a fast-growing annual that grows 1-2 feet tall and has multiple branched stems with opposite leaves and small white flowers with yellow centers. A voluminous seed producer, one plant can produce nearly 7,500 seeds in a season. Because of this, the plant can become invasive rapidly since there is no seed dormancy. The new seed will quickly germinate, creating multiple generations in a season.

Small galinsoga plant
Photo: M. Albright, NJAES

Flowering galinsoga plant
Photo: C. Mathis, NJAES



Galinsoga can quickly spread across garden beds and choke out other plants
Photo: M. Saks, NJAES

Management:

- Remove galinsoga before the plants form flowers.
- Do not leave pulled plants in the garden because they may re-root.

References:

- Rutgers University: https://njaes.rutgers.edu/weeds/weed.php?galinsoga
- University of Vermont: https://www.uvm.edu/vtvegandberry/factsheets/galinsoga.html

RESOURCES

Pest control recommendations for vegetable insect and disease pests:
Refer to Rutgers Fact Sheet 1123 and 1124 for all recommended controls for insects and disease pests. They are valuable resources to refer to throughout the growing season:
Rutgers Fact Sheet on Vegetable Insect Control: https://njaes.rutgers.edu/fs1123/
Rutgers Fact Sheet on Vegetable Disease Control: https://njaes.rutgers.edu/pubs/publication.php?pid=fs1124

Other 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 Editors: Margot Sample and Catherine Mathis
Beneficial Spotlight: Loretta Terraneo and Donna Tyson
Weed Spotlight: Joy Burdette and Jody Carlson