

WHAT'S IN THIS REPORT		
TIPS	NEW PROBLEMS SEEN	SPOTLIGHTS
<ul style="list-style-type: none"> • Use Science backed research when looking for gardening guidance. 	<ul style="list-style-type: none"> • Summer Whiteflies • Common Corn Smut • Brown Marmorated Stinkbug 	<ul style="list-style-type: none"> • Black Swallowtail Butterflies & Caterpillars

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

The IPM team uses multiple sources to identify and describe all of the pests reported on. These sources are in various texts and also online but no matter the source, the information has scientific backing. Using information that has had the scientific method applied to it assures that the reports are accurate. The institutions relied upon most often are universities, especially Rutgers. If you would like to do your own independent research, include .edu in your search, for example, "how to grow tomatoes .edu" for proven and field tested information.

REPORTS ON NEW PROBLEMS

Problem: Whiteflies
(Aleyrodes proletella)

Where: Morris Township Community Garden (8/15)

Description: Cabbage whiteflies were seen on many Brassica plants in the Morris Township, Madison, and Morris County Community Gardens. We also saw whiteflies infesting several sweet basil plants. As we reported in the spring, whiteflies are now overwintering in N.J. Therefore, we suggest that if your Brassica plant are still harboring whitefly in the late fall, then you should remove the plants from the garden. The grey spots on the whiteflies indicate that they are cabbage whiteflies (*Aleyrodes proletella*).

Cabbage whiteflies are an emerging pest in the Northeast US where they were first seen in 1993. They have also been reported in California and Oregon. They originated in Europe and are in many locations worldwide. Cabbage whiteflies are primarily a problem for kale and brussels sprouts. They overwinter, even in Canada.



Whiteflies on kale leaf
Photo: Jennifer Basile, NJAES



Cabbage whiteflies and nymphs
Photo: P. Nitzsche, NJAES

Management:

- Inspect Brassica plants late in the gardening season. If infestations of whiteflies are found, bag and remove the plants. If the whiteflies are left on overwintered plants in the garden, they will infest new Brassica plants in the spring. Populations of whiteflies can grow quickly.
- Reducing populations by spraying with a hose, placing yellow sticky traps above the infested plants, or using insecticidal soap or neem oil, can reduce the population enough to allow natural predators to control future populations.

References

- New England Vegetable Guide: [Insect Control | UMass Amherst New England Vegetable Guide \(https://nevegetable.org/crops/insect-control-3\)](https://nevegetable.org/crops/insect-control-3)
- Rutgers Fact Sheet FS204, Whiteflies: <https://njaes.rutgers.edu/pubs/publication.php?pid=FS240> (Note: this fact sheet is being updated to say that cabbage whiteflies are now in New Jersey and overwinter.)

Problem: Common Corn Smut
(*Ustilago maydis*)

Where: Madison Community Garden (8/19)

Description: Common corn smut is a fungal disease caused by the pathogen *Ustilago maydis*. It can be found in most areas that grow corn, and overwinters in old plants or soil. During the growing season, galls will form which eventually produce spores which cause future disease. The galls commonly develop on ears, leaves, stalks or tassels, and are more prevalent during hot dry weather. Also, too much or too little nitrogen can favor smut infection.



Common Corn Smut Photo: Brian Monaghan NJAES

Management:

- Smut can be managed by growing disease resistant hybrids, maintaining proper soil fertility, and removing infected plants before the galls erupt.

References

- University of Minnesota extension <https://extension.umn.edu/corn-pest-management/common-smut-corn>
- K-state Research and Extension. [https://hnr.k-state.edu/extension/info-center/common-pest-problems/common-pest-problem-new/Corn Smut.pdf](https://hnr.k-state.edu/extension/info-center/common-pest-problems/common-pest-problem-new/Corn%20Smut.pdf)

Problem: Brown Marmorated Stinkbug Adults and Nymphs (5th instar)

(*Halyomorpha halys*)

**Where: Morris Township home garden (8/21)
Morris County Community Garden (8/23)**

Description: The Brown marmorated adult stinkbugs have a mottled brown-grey shield-shaped body and are approximately 5/8 inch long with white banding on their antennae and legs. They are flying insects. This pest usually lays clutches of approximately 28 elliptical-shaped eggs on the underside of leaves. Upon hatching, the nymphs progress through five instars or stages during which they range in size from 2.4mm to 12mm (approx. 2/16 to 1/2 inch). The first instars resemble ticks and are not very active, remaining near the egg mass. Nymphs have dark reddish eyes and a yellowish-red abdomen with black stripes. Their legs and antennae are black with white banding.

The Brown marmorated stink bug is native to Asia and was introduced into the United States in the mid-1990's. They produce one to two generations per year in cooler climates and can be a serious agricultural pest as they feed on a variety of tree fruits and vegetables such as apples, cherries, corn, peaches, peppers, tomatoes and soybeans. Feeding damage can lead to pitting and scarring and sometimes a mealy texture. They also feed on leaves, causing a stippled area about 1/8 inch in diameter around the feeding site. They do not chew holes but pierce the epidermis and suck out the juices.

This pest overwinters in confined spaces such as buildings, dead trees and logs. In Spring, they emerge and lay their eggs on wild host plants, then move on to begin feeding on their chosen food crops of which there are many.



Brown marmorated stink bug adult female
Photo: Rutgers, NJAES



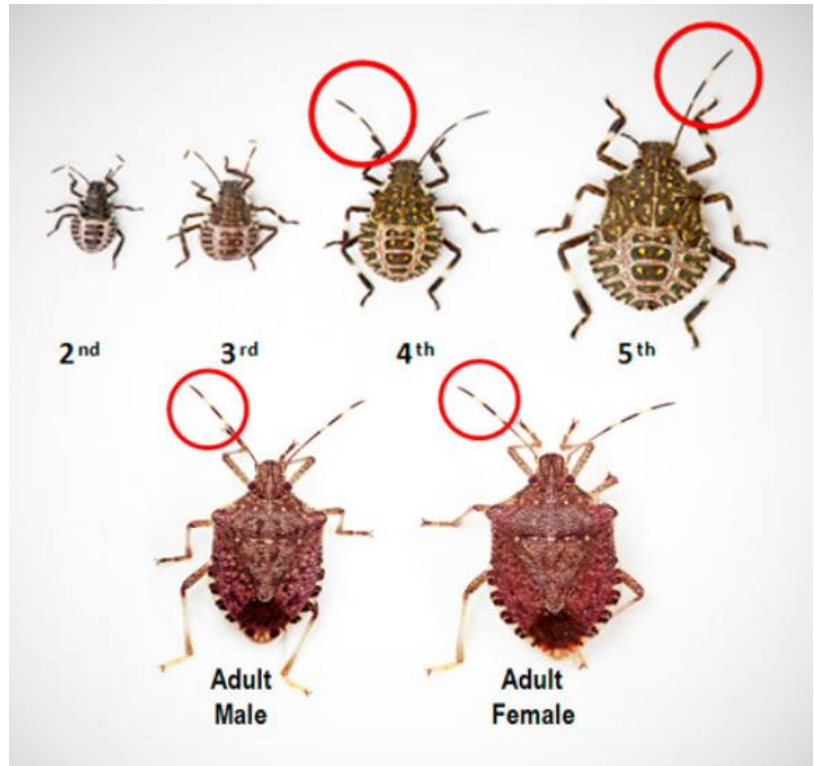
Possible Brown marmorated stink bug feeding damage
Photo: M. Sample, NJAES



5th instar brown marmorated stinkbug nymph
Photo: M. Albright, NJAES



Eggs and first instar nymphs
Photo: M. Albright, NJAES



Brown marmorated stinkbug lifecycle. Note the white bands on the antennae and legs. (from University of Missouri reference below)

Photos: Dr. Tracy Leskey, USDA-ARS

Management:

- Hand pick adults, nymphs and eggs and crush or deposit in a jar of soapy water.
- Clear away any likely overwintering sites in or near your garden.
- Organic insect sprays containing Spinosad have shown some efficacy but need to be reapplied frequently. READ THE LABEL

More Information: Fact Sheet / References

- [Rutgers New Jersey Agricultural Experiment Station: How to Identify the Brown Marmorated Stink Bug \(Rutgers NJAES\)](#)
- US Environmental Protection Agency (EPA): [Brown Marmorated Stink Bug | US EPA](#)
- North Carolina Extension: [Brown Marmorated Stink Bug \(North Carolina\) | NC State Extension Publications \(ncsu.edu\)](#)
- University of Missouri: [Brown Marmorated Stink Bug Identification & Scouting // Integrated Pest Management, University of Missouri](#)

SPOTLIGHT

Eastern Black Swallowtail Butterflies and Caterpillars

(*Papilio polyenes*)

Description: The Eastern Black Swallowtail Butterfly (*Papilio polyenes*) is the official state butterfly of New Jersey and is part of the Papilionidae family of large butterflies. Even though it is considered non-destructive to commercial agriculture, we as community gardeners know that the caterpillars can (and will) eat our parsley, carrots, and dill. But because the butterflies are such essential pollinators and strikingly beautiful it's definitely worth planting a little extra parsley or dill in different areas of the garden to keep the caterpillars happy and healthy.

The butterfly wings are black with yellow, blue, orange, and red markings with a wingspan of 4 inches. They have tails on their hind wings which resemble the tails of the swallow family of birds, hence their name.

Females are larger than males. They display more blue and less yellow markings on their wings. The males display more yellow and less blue markings. They both display a red eye spot near the margin of each hind wing. The underside of the wings have 2 rows of pale yellow spots and bands of orange spots separated by pale blue.

Their life cycle consists of four stages: egg (light yellow, spherical), caterpillar (young larvae resemble bird droppings, the older caterpillars have an osmeterium, an orange forked gland that emits a foul odor to deter predators), pupa (chrysalis – which can be tan or green) and adult. The adults can overwinter and emerge from the chrysalis undergoing complete metamorphosis. They have to unfold their wings which must harden before they can fly and they will live an average of 2-3 weeks. They can be seen from early April until mid-October and they produce 2 generations a year.

All butterflies are cold blooded so they depend on the environment for heat. To fly, their body temperature needs to be greater than 75 degrees F. On cooler days, they bask with their wings stretched out on rocks and flat surfaces to store energy. They seek shelter on windy and rainy days.

The caterpillar's host plants include the carrot family (Apiaceae) - sweet fennel, dill, parsley, celery, caraway, Golden Alexanders (*Zizia aurea*), Queen Anne's Lace (*Daucus carota*) and common rue (*Ruta graveolens*). The butterflies can be seen on zinnias, purple cone flowers (*Echinacea purpurea*), thistle (*Cirsium arvense*), milkweed (*Asclepias syriaca*) and so much more.

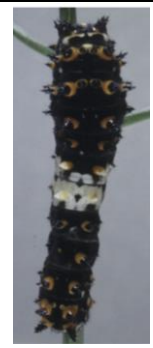
These beautiful pollinators can be seen all over New Jersey; at arboreta, wildlife management areas, backyards and community gardens so please don't destroy those hungry caterpillars, we need them just as much as they need us.



Eastern black swallowtail butterfly
Photo: Raritan Headwaters Association



Eastern black swallowtail caterpillar
full grown (1.5 – 2 inches long)
Photo: C. Bolte, NJAES



Eastern black swallowtail second instar caterpillar (about ¼ inch long)
Photo: J. Butler, University of Florida

References

- Rutgers fact sheet FS281, Celeryworm: <https://njaes.rutgers.edu/pubs/publication.php?pid=FS281>
- Penn State: <https://extension.psu.edu/programs/master-gardener/counties/york/native-plants/fact-sheets/butterfly-gardening-and-conservation>
- University of Florida: <https://edis.ifas.ufl.edu/publication/IN906>
- University of Wisconsin: <https://hort.extension.wisc.edu/articles/black-swallowtail-papilio-polyxenes>
- Missouri Department of Conservation: <https://mdc.mo.gov/discover-nature/field-guide/black-swallowtail-parsnip-swallowtail>

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>

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