RUTGERS MASTER GARDENERS OF MORRIS COUNTY
COMMUNITY GARDEN IPM TEAM REPORT #6
July 10, 2026

RUTGERS UNIVERSITY
Cooperative Extension of Morris County
New Jersey Agricultural Experiment Station

WHAT'S IN THIS REPORT?

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IPM TEAM REPORTS

The Morris County Rutgers Master Gardener Integrated Pest Management (IPM) Team scouts one or more community gardens each week. Every other week the team provides IPM Team reports on problems 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 FS1123 Vegetable Insect Control Rutgers Fact Sheet FS1124 Vegetable Disease Control

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, the Randolph Community Garden, and the Washington Township Community Garden. The team also reports on sightings in the Pequannock Community Garden and their own vegetable gardens.

NEWS

IPM Team Reports are now available on the Rutgers Master Gardeners of Morris County website. Scroll to the bottom of the page to view the reports.

On the website, you can also now subscribe to the IPM Team Reports. When you subscribe, you will be sent a confirmation email that you need to respond to. If you don't see the confirmation email, check your spam.

GENERAL OBSERVATIONS and TIPS

GENERAL OBSERVATIONS

As we reach the peak growing season for warm weather vegetables, we should keep in mind how we can increase the health and productivity of our soil. In this report, we will give a very brief and basic explanation as to why adding compost, mulch and other carbon sources to your soil is a good idea.

TIP: CARING FOR YOUR SOIL

Soil is composed of minerals, organic matter, living organisms, gas and water. It is important to ensure that your soil has all of these components. The correct level of all important minerals can be checked by doing a soil test. A link to the Rutgers Soil Testing Lab is given below in the references. Included in the report you receive from them will be instructions to amend your soil, if necessary.

Organic matter should comprise between 10% and 25% of your soil's total volume. By adding ½ to 1 inch of compost to your plot each year, you can "feed" your soil the important carbon needed to help sustain and strengthen the microbial biota. It is this incredible combination of bacteria, fungi, oomycetes, invertebrates and insects that literally improve the soil's tilth, drainage, and the ability of your plants to uptake nutrients. Mycorrhizal fungi form large networks of hyphae which transport water, break down organic material and cycle nutrients, allowing for natural plant uptake. In return the plant provides sugars from photosynthesis to the fungi. It is this symbiotic relationship which makes your plants more vigorous and productive. Bacterium, invertebrates and other insects also help break down organic material, and also create small tunnels that help provide drainage and oxygen to the soil. Once established these systems aid in the transportation and distribution of the essential requirements for healthy plants. It is important that these systems not be disturbed. Hence, deep digging or roto tilling can destroy what takes years to build. If possible, minimize tillage to preserve these systems and avoid bringing weed seeds to the surface to sprout.

Mulch made from organic material such as grass clippings free of pesticides, shredded leaves, or straw will eventually decompose and help supply carbon to your soil systems. So in addition to helping control weeds and reducing water loss, use mulch throughout all seasons. Cover crops will also add carbon as they decay at the end of their cycle.
There is so much happening below your soil surface that, by supporting it, you help feed the soil that feeds your plants.

References:

- Rutgers Cooperative Extension Soil Testing Laboratory
- Rutgers University Soil Organic Matter (Rutgers NJAES)
- Rutgers Cooperative Extension FS1384: Mycorrhizal Fungi, Their Benefits to Plant Health, and Roles in Resiliency

REPORTS ON NEW PROBLEM

Problem: Cross-striped cabbageworm caterpillars and eggs *(Evergestis rimosalis)*

Where: Morris Township Community Garden, June 24 (caterpillars), June 27 (eggs)
Description: The larvae (caterpillars) of cross-striped cabbageworm moths eat brassica plants such as cabbage, broccoli, kale, cauliflower, and collards. Leaves, buds, and small heads can quickly become riddled with holes. Cross-striped cabbageworm can be a significant problem in the home or community garden, where a limited number of plants are grown, as damage is frequently severe on several consecutive plants within a row. Eggs are light yellow and deposited in flattened masses on the undersides of leaves. The newly hatched larvae is a small gray caterpillar. Mature larvae are about 3/4 inch long, bluish gray above with tiny distinct transverse black stripes. On each side of the body there is a black stripe with a yellow stripe underneath it. There are multiple generations per year.

Figure Cross-striped cabbageworm caterpillars on broccoli rabe.
Photo: M. Albright, NJAES

Figure 1 Cross-striped cabbageworm caterpillar on broccoli.
Photo: M. Olin, NJAES

Figure Cross-striped cabbageworm egg mass on back of broccoli plant leaf. The egg mass is about ¼ inch wide.
Photo: M. Albright, NJAES

Management:

- Hand-pick egg masses and larvae, which is effective but time consuming.
- Cover plants with row covers after transplanting.
- The insecticide, Bacillus thuringiensis, can be used and only affects the caterpillars. Neem, pyrethrin and Spinosad can also be used.

References:

- Rutgers Cooperative Extension Cross-Striped Cabbageworm
- University of Massachusetts, Amherst Cross-Striped Cabbageworm

Problem: Eggplant lace bug *(Gargaphia solani)*

Where: Morris County Park Commission Community Garden, June 22 (adults)
Description: The Eggplant lace bug is tiny and it is difficult to see any details using only the naked eye. Adults are mottled gray to dark brown and measure about 1/16 inch in length. Their nymphs are wingless, yellow with black markings, black antennae and develop black spines on their bodies as they mature. At the most mature nymph stage, they are only about 8/100 inch long. Eggs are 0.4 mm long, oval, and greenish at the base, brown toward the tip. There is a crater-like depression on one end with a white lace-like border. Eggs are laid on end in a roughly circular cluster and lean in different directions. The mother bug remains with her eggs and nymphs to protect them from predators. Since they are so tiny, this can be a helpful tool when attempting to diagnose their presence.

Eggplant lace bugs feed on eggplant, tomato, potato, sunflower, sage, cotton and horsenettle. They feed by piercing and sucking the juices from plant tissues. This results in coarsely circular areas of a whitened discoloration. The insects will be found on the underside of these discolored areas. Adults overwinter among plant debris. They emerge to lay eggs in mid to late May with up to 6 generations per year.

Figure Eggplant lace bug adult on eggplant leaf.
Photo: L. Terraneo, NJAES

Figure Eggplant lace bug adults and nymphs feeding on eggplant leaf.
Photo: M. Olin, NJAES

Figure Example of damage caused by Eggplant lace bug feeding.
Photo: Univ. of Maryland

Management:

- Encourage natural predators which include Lady beetle adults and larvae, spiders and shield-shaped soldier bugs.
- Inspect upper and lower surfaces of leaves if you notice stippling or loss of green color.
- Apply an ultra-fine horticultural oil or insecticidal soap, being sure to spray both upper and lower leaf surfaces.
- Clear away all debris at the end of the growing season to help prevent overwintering of this pest.

References:

- Virginia Cooperative Extension Eggplant Lace Bug
- University of Maryland Extension Eggplant Lace Bugs on Vegetables

Problem: Squash Bug *(Anasa tristis)*

Where: Morris Township Community Garden, June 29, adult and Madison Community Garden, July 7, eggs and nymphs

Description: Squash bugs are a major pest of squash and pumpkins. The bugs are ⅝" long and resemble stink bugs. Females lay clusters of yellow to bronze-colored eggs on the underside of leaves. These will hatch in ten days and the nymphs will mature in just over a month. At the end of the growing season, adults will overwinter in leaf litter.

Squash bugs and their nymphs cause damage by piercing and sucking the sap from plants. Leaves can wilt rapidly, blacken, and die. Small plants, as well as runners of large plants, may be entirely killed. During the feeding process, squash bugs inject a poisonous substance causing a wilting known as *Anasa* wilt of cucurbits, closely resembling a disease called bacterial wilt. Squash bugs can also transmit Yellow Vine Disease of Cucurbits that causes vines to turn yellow and die.

Figure Squash bug adult on leaf.
Photo: M. Albright, NJAES

Figure Closeup of Squash bug eggs.
Photo: M. Albright, NJAES

Figure Squash bug egg cluster with newly hatched nymphs.
Photo: M. Albright, NJAES

Management:

- Gardeners should inspect their plants and hand-pick (remove and crush or drop in a jar of soapy water) adults, eggs and nymphs. The eggs and nymphs are often found on the undersides of leaves.
- Flat boards can be placed on the ground since adults like to hide under them. Gardeners can lift the boards in the morning and destroy the squash bugs found.
- Sanitation is especially important. Remove trash, old vines, dead leaves and plant residue to help prevent the buildup of the pest and remove overwintering protection for squash bugs.
- The insecticide, Neem, can be used for adults and nymphs. As with any insecticide, make sure the product label includes the plant and pest, and follow the instructions on the label.

References:

- Rutgers University Squash Bugs (Rutgers NJAES)
- University of California, Statewide IPM Program Squash Bugs

Problem: Japanese beetle *(Popillia japonica)*

Where: Morris Township Community Garden, June 29

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 a brown head, cream-colored 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. Top plant choices of feeding are rhubarb, beans, tomatillo, grapes, peach, plum, cherry, rhododendron, roses, and many other ornamentals.

Figure Japanese beetle adult.
Photo: D. Tyson, NJAES

Figure Japanese beetles feeding on leaf.
Photo: J. Basile, NJAES

Figure Gardener hand picking Japanese beetles.
Photo: J. Basile, NJAES

Management:

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

References:

- Rutgers Cooperative Extension FS1009: An Integrated Approach to Insect Management in Turfgrass: White Grubs
- University of Minnesota Extension Japanese beetles in yards and gardens

Problem: Powdery mildew disease *(Golovinomyces orontii)*

Where: Morris Township Community Garden, June 29

Description: Windborne fungal spores cause this foliar disease. The first signs of infection are white, powdery deposits that can be found on older leaves of various cucurbit family members such as squash, zucchini, yellow summer squash, cucumbers, and melons. It is difficult to avoid during a New Jersey summer, as favorable conditions are hot and dry weather followed by humidity. As this fungus spreads throughout the plant, you'll notice the plant leaves begin to turn yellow, dry and wither. Eventually, both the plant vigor and yield will be affected by lack of photosynthesis.

Of note, there is also normal white coloration on the leaves of many squash varieties that is **not** Powdery mildew. This coloration does not rub off, but is part of the plant's regular leaf pattern

Figure Powdery mildew fungus spots on zucchini leaf.
Photo: M. Albright, NJAES

Figure Powdery mildew fungus spots on underside of zucchini leaf.
Photo: M. Olin, NJAES

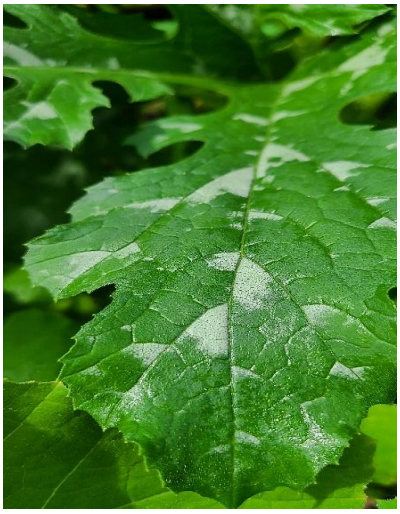

Figure Normal color variation of some squash varieties. This is not Powdery mildew fungus.
Photo: J. Basile, NJAES

Management:

- When planting at-risk crops such as squashes and cucumbers, leave extra space between plants to promote air circulation and ample room to receive sunlight.
- Remove infected leaves to prevent spread of the disease. Infected leaves should be thrown away, not composted.
- Apply a spray made of potassium bicarbonate on the leaves to help prevent fungus. As always, read and follow the directions on the label.
- Remove debris at season end to help decrease spreading any spores.
- Clean your tools.
- Rotate crops (three-to-four-year rotation is ideal).
- Plant cucurbit varieties that have proven resistance to Powdery mildew disease. Cornell College of Agriculture has posted a list of resistant varieties based on seed catalogs from 2018, 2020 and 2022. A link to this website is listed under References below.

References:

- Cornell University Disease-resistant cucurbit varieties
- University of Minnesota Extension Powdery mildew of cucurbits

Problem: Squash vine borer larvae (adult previously seen)

Where: Morris County Home Garden, July 5

Description: The squash vine borer, *Melittia satyriniformis or Melittia cucurbitae*, is 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 borers are not removed, they will cause the plant to wilt and die.

Figure Squash vine borer adult resting on pea plant leaf.
Photo: M. Olin, NJAES

Figure Damaged squash stem showing point of entry by Squash vine borer larva. Yellowish excrement left behind is called frass.
Photo: D. Strumolo, NJAES

Figure Squash vine borer larva about ½ inch long exposed inside squash stem.
Photo: D. Strumolo, NJAES

Figure Squash vine borer larva inside a stem.
Photo: P. Nitzsche, NJAES

Management:

- Watch for and destroy adults.
- Inspect plants for eggs. They can be anywhere on the plant. Most often they are at the base of the plant, on the stems, or on leafstalks. They can be removed with the sticky side of tape.
- If frass 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 should be removed when the plant flowers to allow for pollination unless the variety planted is self-pollinating (parthenocarpic). 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 Dead Bug 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. Be sure to read and follow all pesticide label instructions.

References:

- Rutgers Cooperative Extension Squash Vine Borers
- University of Connecticut Squash-Vine-Borer

BENEFICIAL SPOTLIGHT

Beneficial Insect: Bumble bees *(Bombus spp.)*

Description: Bumble bees are highly effective pollinators native to North America and are especially common in cooler climates. Their long, dense hairs help them stay active in cold weather, allowing them to forage earlier in the spring and later in the fall than many other pollinators. Like all bees, bumble bees feed exclusively on pollen and nectar from flowers.

They play a critical role because they are efficient pollinators of many varieties of flowers. Along with other bee species, they help pollinate nearly two-thirds of the crops we eat some of which, such as blueberries, tomatoes, peppers and eggplants, have improved fruit set with 'buzz pollination', a skill that honey bees lack.

Like honeybees, bumble bees are social insects that live in colonies. Their annual colony cycle begins when overwintering queens emerge in spring and establish new nests. The queens produce worker bees, which help the colony grow throughout the summer. Later in the season, the colony produces new queens and males that mate before winter arrives. The original colony dies in autumn, while newly mated queens hibernate and emerge the following spring to begin the cycle again. Queens will not mate with males from the same colony which helps ensure a healthy gene pool.

Figure Bumble bee.
Photo: J. Basile, NJAES

Unfortunately, many North American bumble bee populations are declining. Today, approximately one-third of bumble bee species are at risk. Habitat loss, pesticide use, pathogens and climate change are among the leading causes. Pesticides can not only kill bumble bees directly but can also impair their ability to navigate, forage and reproduce successfully.

Figure Bumble bee pollinating a tomato flower. Note yellow pollen packed on its hind leg.
Photo: Rutgers University, N. Bartome

Figure Bumble bee in mid-flight approaching borage flower.
Photo: D. Tyson, NJAES

References:

- Rutgers Cooperative Extension: FS1280: Supporting Bees in Your Garden and on Your Farm
- University of Minnesota – Bee Lab Bumble Bees

ADDITIONAL RESOURCES

Rutgers: Gardening and Landscaping Fact Sheets & Bulletins
Rutgers Master Gardener Program
Rutgers Soil Testing Laboratory
Rutgers Cooperative Extension: Community Gardening Series
Office of the New Jersey State Climatologist
Rutgers New Jersey Weather Network
Rutgers Cooperative Extension: Ticks and Tick-borne Disease
Rutgers NJAES You Tube Channel

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