

WHAT'S IN THIS REPORT		
TIPS	NEW PROBLEMS SEEN	SPOTLIGHTS
• Harvest your produce frequently • Plant for a fall harvest	• Downy mildew on cucumber plants • Sunscald on peppers • Leaf hoppers	• Stinging 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

Harvest your produce frequently

This is peak season for summer harvests, so enjoy the products of your garden labors. Be sure to pick your produce frequently so you can enjoy it at its peak. If overripe fruit is left on vegetable plants, the plants will slow down producing new fruit. Rotting fruits can also be attractive to pests.



Some summer produce

Photo: M. Sample, NJAES

Plant for a fall harvest

It's not too late to plant now for a fall harvest. Consider seeding carrots or beets. Cole crop seedlings (such as kale, bok choy, napa cabbage, and broccoli) and lettuce seedlings can be planted in the garden soon for a fall harvest. Keep in mind that plants will mature more slowly in the cooler months, so add a week or two to the days to maturity on the seed packet when doing your planning.

REPORTS ON NEW PROBLEMS

Disease: Downy mildew on cucumber plants <i>(Pseudoperonospora cubensis)</i>	Where: Morris Township Community Garden (7/24) Morris Township Home Garden (7/22) Morris County Community Garden (7/28)
Description: Downy mildew can infect all cucurbits including cucumber, melon, pumpkin and squash. Pale green to yellow spots form on the upper surface of leaves and later turn brown. Leaf spots are angular and bounded by leaf veins. This is most distinct in cucumber plants. A telltale sign of downy mildew is the gray to black fuzz (spores) on the underside of the leaves, giving it a somewhat “dirty” appearance. This may be most evident in the morning or when the leaves are wet. Downy mildew thrives in wet or very humid conditions. The pathogen can move on air currents, splashing water and on the tools and hands of workers. Downy mildew does not overwinter in New Jersey; it blows into the area via air currents. Many cucumber varieties that previously had good resistance to downy mildew have now become susceptible to the disease.	
 Downy mildew disease on cucumber plant Photo: M. Albright, NJAES	 Downy mildew disease on cucumber plant: underside of a leaf, top of a leaf Photo: M. Albright, NJAES



Characteristic angular spots caused by downy mildew on cucumber, as the disease progresses the leaves shrivel and curl upward

Photo: B. Gugino, Penn State



Underside of a cucumber leaf showing downy mildew
dark, fuzzy spore masses

Photo: Michigan State University

Management:

- Plant varieties that have resistance to downy mildew. For pickling cucumbers: Citadel and Peacemaker. For slicing cucumbers: Bristol, DMR 401, Marketmore 76, and Brickyard.
- Plant early in the season to help escape high disease pressure
- Do not allow water to remain on leaves for long periods of time
- Water at the base of the plants or use drip irrigation since downy mildew thrives in wet conditions.
- Promote good air circulation by not crowding plants and growing them vertically on trellises or fences.
- Remove infected plants to help keep the pathogen from spreading

References

1. Rutgers Fact Sheet E310: <https://njaes.rutgers.edu/E310/>
2. University of Minnesota: <https://extension.umn.edu/disease-management/downy-mildew-cucurbits>
3. Michigan State University:
https://www.canr.msu.edu/news/cucumber_downy_mildew_management_practices_for_home_gardeners
4. Cornell University: [Cucumber and Cantaloupe Varieties Resistant to Downy Mildew \(cornell.edu\)](https://www.cornell.edu/cupress/cucumbers/cucumbers/cucumbers.htm)

Problem: Sunscald on Peppers**Where: Morris Township Community Garden (7/25)**

Description: Sunscald occurs when peppers (or tomatoes) are exposed to the sun during hot weather. It is more apparent on plants that have sparse foliage or have lost leaves to disease. Sunscald is especially prevalent on previously shaded plant parts that are suddenly exposed to the sun. Areas damaged by sunscald are vulnerable to attack by insects, fungi, and bacteria.



Sunscald on pepper fruit

Photo: N. Gardner, NJAES

Management:

- Maintain healthy plants with plenty of foliage. Never remove mature foliage from the plants
- Plant pepper varieties that resist diseases that defoliate the plants. One such disease, Bacterial Leaf Spot, is common in New Jersey. A list of disease-resistant peppers can be found at: [Disease-resistant pepper varieties \(cornell.edu\)](http://disease-resistant-pepper-varieties.cornell.edu)
- At the end of the season, remove all plant debris to help prevent diseases from overwintering
- Rotate crops. Each year plant peppers in a new location away from where tomatoes, eggplant, potatoes and peppers were grown in the past three years

References

- Rutgers Fact Sheet: <https://njaes.rutgers.edu/FS678/>
- University of Illinois: <https://web.extension.illinois.edu/vegproblems/sunburn.cfm>
- Michigan State University: https://www.canr.msu.edu/news/hot_and_sunny_days_promote_sunscald_in_peppers_and_other_vegetables

Problem: Leafhoppers
(Family: Cicadellidae)

Where: Morris Township Community Garden (7/24)
Morris County Community Garden (7/18)
Morris Township home garden (7/24)

Description:

Leafhoppers are small less than 1/4 inch wedge shaped insects that can injure many vegetable crops, including potato, beans, carrot, celery, eggplant, lettuce, parsnip, parsley, rhubarb, and others. Leafhopper feeding causes leaves to develop pale specks. Leaves of plants may turn yellow then brown and curl and die. Leafhoppers also excrete honeydew on which blackish sooty mold grows. As nymphs molt into the next (larger) instar, they leave whitish cast skins on the underside of foliage. Some leafhopper species transmit plant pathogens that cause plant disease. There are many species of leafhoppers.

Leafhoppers were recently seen on

- Potato plants Morris Township Community Garden and a Morris Township home garden. This leafhopper species was identified as potato leafhoppers (*Empoasca fabae*)
- A tomatillo plant at the Morris County Community Garden. The species was not identified.

Potato leafhopper, *Empoasca fabae*

Adult potato leafhoppers are pale green and wedge-shaped, about 1/8 inch long. They jump, fly or crawl when disturbed. Their nymphs can be found on the undersides of leaves and are smaller than the adults. When disturbed, the nymphs move sideways in a crab-like motion. This movement is distinctive of the potato leafhopper. Most problems caused by potato leaf hoppers occur in potato and snap bean plants, but potato leafhoppers can be found on many different plants.

Potato leafhoppers can cause damage out of proportion to their population density because they inject a toxic substance into the plants while feeding. On potato plants this substance causes yellowing and browning of the leaves called 'hopperburn'. The first symptom is a brown, triangular spot on the tip of the leaflet. As symptoms progress, spots spread backward and inward from the leaf edges and the leaves curl upward. Premature death of the plant may occur in severe infestations. Injury occurs most rapidly in hot dry weather. Though plants may show little evidence of hopperburn, yield losses can be substantial. Among potato varieties, there are significant differences in susceptibility to hopperburn.

Potato leafhoppers do not overwinter in New Jersey. They migrate north from the Gulf States each year arriving in New Jersey in mid to late June.



Potato leaf hopper adult (1/8 inch long) and nymph.

Photo: Frank Peairs, Colorado State University



"Hopperburn" damage to potato plant caused by leafhoppers

Photo: M. Albright, NJAES



Some varieties of potatoes are more susceptible to leafhopper damage than others. The variety in the row on the left shows more damage than the variety in the row on the right.

Photo: U. of New Hampshire

Leafhopper, species not identified

A tomatillo plant at the Morris County Community Garden had yellowing leaves. Examination showed many leafhoppers on the plant.



Yellowing tomatillo plant infested with leafhoppers

Photo: J. Basile, NJAES



Magnified photo of one of the leafhoppers found on the plant to the left

Photo: J. Basile, NJAES

General Management for leafhoppers:

- Row covers are effective at excluding leafhoppers but must be removed at flowering if the plant needs pollination by insects. Row covers are effective for potato plants since they do not need pollination. In addition, row covers over potato plants exclude pests such as Colorado potato beetles and three lined potato beetles.
- Regularly inspect plants if leafhoppers were a problem the previous growing season. If nymphs are abundant early in the growing season, the plant can be sprayed with Pyrethrins or Canola oil. It is important to get thorough coverage because the nymphs are on the undersides of the leaves.

Fact Sheet / References:

1. Rutgers Fact Sheet on Leafhoppers: <https://njaes.rutgers.edu/pubs/publication.php?pid=fs237>
2. Rutgers Fact Sheet on Insect Control for Home Gardens: <https://njaes.rutgers.edu/fs1123/>
3. Penn State University: <https://extension.psu.edu/potato-leafhopper-on-vegetables>
4. University of New Hampshire: <https://extension.unh.edu/blog/2018/07/potato-leafhoppers>
5. University of California: <http://ipm.ucanr.edu/PMG/GARDEN/VEGES/PESTS/leafhopper.html>

Stinging Caterpillars

Description:

Caterpillars are the larvae of various moth and butterfly species. They belong to the Order Lepidoptera and Class Insecta. Caterpillars come in many different shapes, colors and sizes but some things they have in common are having a maximum of 5 prolegs, which are stubby structures that help to anchor and stabilize them on their host plants, and they are voracious consumers of plant foliage and, in some cases, fruit.

Some caterpillars are smooth while others appear hairy or fuzzy. While it might be tempting to pick up a fuzzy caterpillar, it is wise to be cautious as some caterpillars have bristles or spines that can sting or irritate your skin. These spines are referred to as urticating hairs or bristles and the irritation they cause can feel similar to that caused by contact with fiberglass particles. In addition, some urticating hairs contain toxins which are released when the hairs break off in the skin and this can lead to a variety of allergic reactions including itching, redness, blisters, and dermatitis as well as other more systemically severe reactions.

Three of the caterpillars in New Jersey that can sting are Saddleback Caterpillar (*Achaea stimulea*), Io Moth Caterpillar (*Automeris io*), and Puss Caterpillar (*Megalopyge opercularis*). The adult moths are harmless but their offspring are not. The older the caterpillar the more potent is its toxin.

- **Saddleback caterpillar** has bright, distinctive coloring which makes it easily recognizable. Host plants are usually a variety of trees and viburnums. They are occasionally found on plants in vegetable gardens.
- **Io Moth caterpillar** Host plants include a variety of trees as well as blackberry bushes. They pupate in the ground and might be seen in leaf litter.
- **Puss caterpillar** is the most dangerous of the three, and contact with a Puss caterpillar can result in a trip to the hospital. Their host plants are a variety of trees, but also roses.

Management:

- Wear long sleeves and gloves when weeding or gardening.
- Be aware of host plants which each of these caterpillars favor.
- Physical contact with any of these caterpillars has the potential to be very unpleasant. First aid is to quickly remove as many of the spines as possible using adhesive tape. If adverse reactions occur seek medical attention immediately.



Saddleback caterpillar

Photo: Lyle Buss, University of Florida



Io moth caterpillar

Photo: Texas A&M University / Getty Images



Puss caterpillar

Photo: Donald Hall, University of Florida

Fact Sheet/References:

1. University of Florida: <https://edis.ifas.ufl.edu/publication/IN014>
 2. University of Kentucky <https://entomology.ca.uky.edu/ef003>
 3. University of Minnesota <https://extension.umn.edu/yard-and-garden-insects/caterpillars-ornamental-plants>
 4. University of Maryland: <https://extension.umd.edu/resource/stinging-caterpillars-shrubs>
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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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