RUTGERS
New Jersey Agricultural Experiment Station

Rutgers Master Gardener IPM Team Report
Report # 11, Week of September 6, 2021

WHAT'S IN THIS REPORT		
NEW PROBLEMS SEEN	**PROBLEMS LIKELY TO BE SEEN SOON**	**SPOTLIGHTS**
• Saddleback caterpillar • Cercospora on Swiss chard • Mold on zucchini fruit • Distorted carrots	• Allium leaf miner	• Beneficial: Autumn meadowhawk • Weed: Galinsoga

GENERAL OBSERVATIONS AND TIPS

Peak harvest season continues. Hopefully you are still enjoying the product of your garden labors. Try to pick your harvest at its peak. If you have more than you can use or preserve consider giving the excess to your community garden neighbors or a local food pantry. Perhaps even more gratifying than enjoying your harvest is sharing it.

Now that the weather is finally cooling off a little, production will likely slow down. Disease and insect pressure should also lessen as the temperature cools. Continue to be vigilant though for issues. If you continue to spot issues early you'll be better equipped to take measures to mitigate damage and continue your harvest for as long as possible.

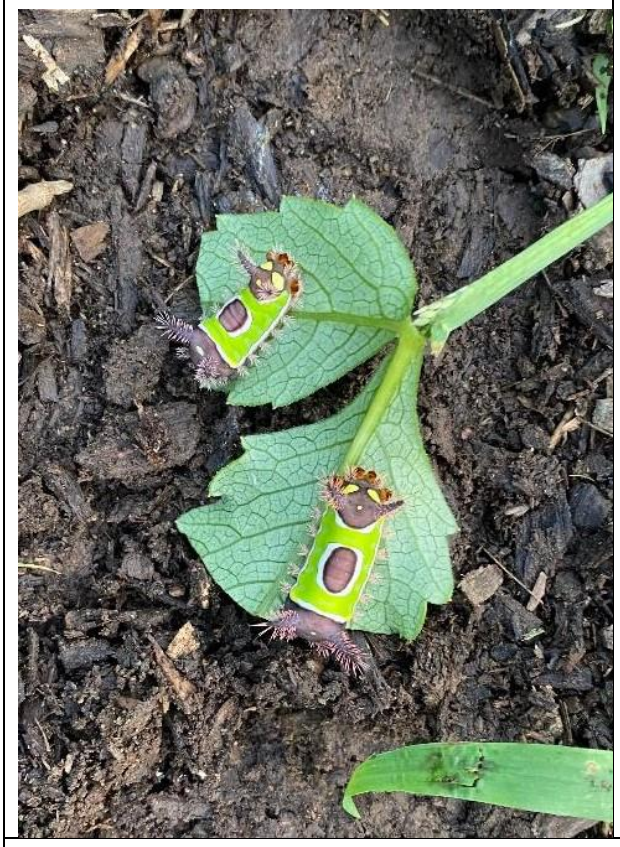
When plants are diseased or just spent, be relentless about removing them. This will help provide a good environment for existing healthy plants to continue producing and also minimize overwintering of diseases and insect pests.

Now is also a good time to update your garden records before you forget what worked well and what you could improve next year.

REPORTS ON NEW PROBLEMS

Pest: Saddleback caterpillar (*Acharia stimulea*)	**Morris Township Community Garden 8/24/21**

Description: Saddleback caterpillars were found at the Morris Township community garden in August. Saddleback caterpillars, *Acharia stimulea,* have a brown saddle-shaped spot on the middle of their green backs. They usually do little damage to plants, but can sting if touched. Like other "stinging caterpillars" they don't sting like a bee or wasp. They have hairs or spines that break off when touched often injecting a poison which causes a burning sensation that feels like a bee sting. They are found on a wide variety of plants. There is usually no need to destroy them as long as you can keep them from contact with exposed skin.



Saddleback caterpillars at the Morris Township community garden. Photos: J. Mobley

Management:

- Destroy the caterpillars by stepping on them, but avoid touching them
- Leave them be if damage is insignificant

More Information: Fact Sheet / References

- University of Maryland: https://extension.umd.edu/resource/stinging-caterpillars-shrubs
- University of Florida: https://entnemdept.ufl.edu/creatures/urban/medical/saddleback_caterpillar.htm

Disease: Mold on zucchini fruit (*Choanephora cucurbitarum*)	**Denville home garden 8/30/21**

Description: Following hot wet weather, dark mold was found on zucchini fruits. This is most likely Choanephora rot, *Choanephora cucurbitarum*. Unlike many other cucurbit diseases, Choanephora rot only affects the fruit. Many cucurbit diseases affect the whole plant, and once they are present the plants continue to decline. If the damage is severe it's often best to remove the affected plant to avoid disease spread. Choanephora rot is different. Plants show no sign of damage. The disease is short-lived and subsequent fruit sets are usually not affected unless favorable conditions reoccur.

Fungus on zucchini fruit

Photo: Margot Sample, NJAES

Choanephora Rot on summer squash. Photo: University of Minnesota

Management:

- Create conditions that favor healthy plant growth; provide full sun, air circulation and proper spacing
- Avoid overhead watering as much as possible
- Remove infected fruits, as these will not recover

More Information: Fact Sheet / References

- University of Minnesota article on fungal growth on cucurbits: https://apps.extension.umn.edu/garden/diagnose/plant/vegetable/summersquash/fruitfuzzy.html
- Louisiana State University plant disease id article: https://www.lsu.edu/agriculture/plant/extension/hcpl-publications/pub-3476-Plant-Disease-ID-and-MGMT-ChoanephoraFlowerandFruitRot_FINAL.pdf

Disease: *Cercospora* leaf spot on swiss chard	**Morris Township Community Garden and Morris Township Home Garden 9/2/21**

Description: *Cercospora* leaf spot causes small circular leaf spots with tan or white center and red margins. This disease is the result of a fungus. The spots start off small but can expand in size, resulting in significant loss of foliage. This fungus is favored by high humidity and temperatures between 75 and 85 degrees. It is spread by wind, rain splash, insects, just about anything.

Crops at risk are carrots, beets, spinach, Swiss chard, peanuts, cucumbers, squash, melons and pumpkins. It was seen on beets earlier this year (IPM report 6, week of June 28th), and has recently been seen on Swiss chard.

Cercospora Leaf Spot on Swiss Chard. Photo: Brian Monaghan, NJAES

Cercospora Leaf Spot on Swiss Chard. Photo: Cornell University

Management:

- Clip off infected leaves. Feed and water affected crops regularly to avoid undue stress to plants and harvest infected crops as soon as possible.
- Since the fungus overwinters in plant debris, remove all infected plant material and dispose of the material away from the garden.
- Avoid planting succession crops of beets, swiss chard and spinach close together.
- Water in the morning at the base of the plant to help make sure the plant is not wet during the night.
- Practice a two or more year crop rotation since the pathogen can live in the soil for two years.

Fact Sheet / References

- University of Massachusetts Fact Sheet, https://ag.umass.edu/vegetable/fact-sheets/cercospora-leaf-spot-of-swiss-chard-beets-spinach
- Cornell University article on Cercospora Leaf spot: http://blogs.cornell.edu/livegpath/gallery/beets-and-swiss-chard/cercospora-leaf-spot-on-beets-and-swiss-chard/#:~:text=Cercospora%20leaf%20spot%20is%20a,provides%20leaf%20wetness%20for%20infection.

Problem: Distorted carrots	Where: Denville home garden 8/26/21

Description:

Carrot cracking can be caused by uneven soil moisture such as a dry period followed by a heavy rain. Uneven soil moisture can also lead to a bitter flavor, woodiness, and poor harvest.

Carrot distortions such as forked, twisted, or deformed roots can be caused by a number of factors, including rocky or clumpy soil and close cultivation. Soil diseases, such as pythium, can also cause forking. Even though they may be "ugly", cracked and split carrots are safe to eat.

Forked carrot. Photo: Margot Sample, NJAES

Cracked carrot. Photo: Margot Sample, NJAES

Management:

- Carrots should be watered deeply and frequently enough to keep the soil evenly moist since uneven soil moisture can lead to cracked roots as well as bitter flavor and woodiness. Even moisture also helps provide good color and root development.
- To help prevent splitting and other carrot root distortions, plant carrots in raised beds with loose soil, or sift the soil to remove rocks. Before planting, cultivate the soil to break up large clumps.
- When controlling weeds after planting, avoid cultivating too deep or too close to the plants.

Fact Sheets / References:

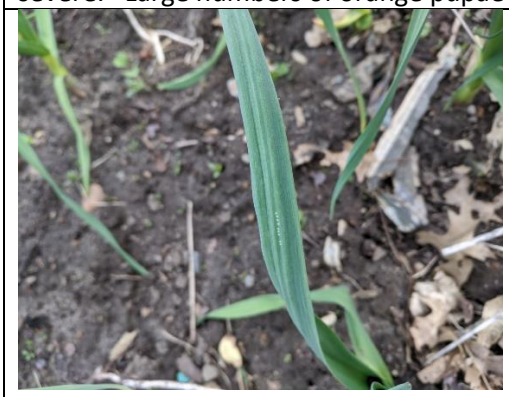
- Washington State University, Growing Carrots in Home Gardens: http://mtvernon.wsu.edu/path_team/Growing-Carrots-in-Home-Gardens-WSU-FS118E-Ophardt-2013.pdf
- Rutgers University, Carrots: https://njaes.rutgers.edu/home-lawn-garden/carrots.php

LIKELY TO BE SEEN SOON

Pest: Allium Leaf Miner	**Likely to be seen again soon**

Description: The first generation of Allium Leaf Miners (ALMs) were present in April as evidenced by their distinctive feeding marks on garlic and chive plants. Be on the lookout for the 2nd generation which is expected in Sepember through November.

ALM adults are small flies that are active from late March to April / May. A second generation occurs in September to October / November. The adults lay eggs on the leaves. The larvae mine the leaves and migrate into the bulb and pupate. The injury caused by the larvae often leads to a rot in the bulb or neck of the plant and distortion of leaves. Injury to leeks, onions and scallions can be severe. Large numbers of orange pupae may also be found in harvested alliums particularly leeks.



ALM feeding marks. Photo: Margot Sample, NJAES

ALM pupae. Photo: Cornell University

ALM Adult. Photo: University of Delaware Cooperative Extension

Management:

- Row covers are effective at preventing egg laying during periods of adult activity. We would advise any new plantings of alliums, especially leeks, onions and scallions, be covered at the time of planting to prevent infestation. The spring row covers can be removed in early June after the adults quit flying. Row covers should be used again in the fall to prevent damage from the second generation of adults.
- Spinosad (for example, Captain Jack's Deadbug Brew) can be used for allium leaf miners. Please spray only allium foliage (not other plants) to reduce waste and protect beneficial insects and pollinators.
- Removal of all host debris prior to the end of the season can help prevent overwintering.

More Information: Fact Sheet / References

- USDA pest alert for ALM: http://www.nj.gov/agriculture/divisions/pi/pdf/AlliumLeafMinerAlert.pdf
- Pennsylvania Extension article: http://www.lancasterfarming.com/farming/produce/pest-alert-allium-leafminer-be-on-the-lookout/article_7adfadda-1be1-11e7-898a-a78002c87bb0.html
- University of Maryland ALM article: https://extension.umd.edu//learn/allium-onion-leafminer

BENEFICIAL SPOTLIGHT

Autumn Meadowhawk (*Sympetrum vicinum)* Formerly called Yellow-legged Meadowhawk

Autumn Meadowhawk Dragonfly perched on picnic table. Note the red abdomen on male. Photos: Jennifer Basile, NJAES

Description: Although we feel summer is winding down, mosquitos are still an issue, so look no further than this late top beneficial to the rescue.
This dragonfly species can be found flying from August to late autumn. Adults emerge from water and mating begins. Eggs are laid along water, and undergo Simple or Incomplete metamorphosis, consisting of three stages, egg, nymph to adult. They are carnivores throughout life. Juveniles have greenish golden appearance, as adults, females are red-brown, males are red, both have red faces, clear wings and a small size of up to 1 ¼ inch. Habitat ranges from woodlands, marshes, ponds, streams and lakes. Since their Latin name, *Sympetrum*, indicates "with rock", they can be found soaking up the heat while settled amongst some stone, pebbles, even bricks.

Fun facts:

- With 316 dragonfly species found throughout North America, these fascinating winged creatures can be found in various sizes and beautiful shades of vibrant colors and metallics, soaring throughout your garden in search of flies, gnats, mosquitos and other insects.
- Dragonflies have two sets of wings that work independently, which support speed and maneuverability. Basically, they are aviator experts with the ability to hover and dive.
- Their field of vision is nearly 360 degrees, as their eyes dominate the head.
- Antarctica is the only continent without dragonflies.
- They are ancient marvels, as fossils from 300 million years ago reveal their wingspan was two feet.

Fact Sheet / References:

- Rutgers University Fact Sheet295: https://njaes.rutgers.edu/pubs/publication.php?pid=FS295
- Idaho State University: https://digitalatlas.cose.isu.edu/bio/insects/drgnfly/libefam/syvi/syvifr.htm

WEED SPOTLIGHT

Galinsoga spp.
Also called gallant soldier and quickweed

Description: *Galinsoga* is a fast growing annual that flowers from April to October. It grows 1-2 feet tall and has a multiple branched stem with opposite leaves and small white and yellow flowers. It is a voluminous seed producer, and 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. If not controlled, Galinsoga can spread quickly and cover entire garden beds.

Management: Be sure to remove Galinsoga early in the season to prevent seed production.

Photo top: Galinsoga plant, J. Basille, NJAES
Photo bottom: Garden bed taken over by Galinsoga, M. Albright, NJAES

References

- Rutgers New Jersey Weed Gallery: https://njaes.rutgers.edu/weeds/
- University of Vermont: http://www.uvm.edu/vtvegandberry/factsheets/galinsoga.html

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/

PEST MONITORING APPROACH FOR 2020/21

During 2018 and 2019, teams of Rutgers Master Gardeners conducted regular inspections of two community gardens: the Morris County and Madison Community Gardens.

Due to Covid-19 restrictions during 2020/21, the team is reporting on problems observed in their own vegetable garden plots rather than inspecting all the plots in the community gardens. The team's plots are in six locations in Morris County including the Madison Community Garden, Morris Township ValleVue Community Garden, Morris County Community Garden, as well as home gardens in Denville, Kinnelon, Morris Plains, and Morris Township.

Report Editor: Margot Sample
Beneficial Spotlight: Jennifer Basile
Weed Spotlight: Mary Albright
Sightings Reported by: Mary Albright, May Olin, and Margot Sample