

Vegetable Garden Disease & Pest Monitoring 2020
Rutgers Master Gardener Community Garden Integrated Pest Management Team
Report 8, Week of August 2, 2020

NEW PROBLEMS AND OBSERVATIONS SEEN IN THE PAST TWO WEEKS

- Tomato “cat facing” and cracking
- Bean-Leaf Beetle
- Anthracnose on tomato fruit
- Sunscald on Peppers and Tomatoes
- Bindweed
- Rare Dragonfly

GENERAL OBSERVATIONS

So many tomatoes! So many things that can go wrong! Don’t be discouraged, it’s not just you. The weather has been hot and humid, and the insects and diseases are out in full force. Don’t give up now: Maintain consistent moisture and keep scouting for any pests and diseases.

REPORTS ON PROBLEMS SEEN IN THE PAST TWO WEEKS

Problem: Tomato Cracking and Cat Facing	Where: Various Gardens, Morris County
<p>Description: Tomato cracking and cat facing are two phenomena that frustrate gardeners, and stem from a variety of causes. Deformities can include cracks from the stem end, strange holes and deformities on the blossom end, or concentric cracks that radiate from the stem. There does not seem to be consensus on the cause of these problems.</p> <p>UC Davis states, “Conditions which may cause cracking include: 1) Periods of very fast fruit growth with high temperature and moisture levels; 2) Initial fruit growth during a dry period followed by heavy rain or irrigations during ripening. 3) Wide differences in day and night temperatures. Cat face may be caused by abnormally cool or hot weather, or any disturbance to flower parts during blossoming.”</p> <p>As we have had hot dry weather recently, punctuated by dramatic rainfall, this could be a likely reason we have seen this in the last two weeks. According to a Rutgers study, heirloom varieties may be more prone to this problem.</p>	



Deep stem end cracks (D. DuBrule, 7/20)



Classic "cat face" deformity on blossom end (M. Sample, 8/20)



Concentric ring cracking (UC Davis)

Suggestions: Although it is often possible to cut around the deformed part of the tomato and enjoy it regardless of its appearance, it would be better to eliminate the problem entirely.

U Mass advises:

- Avoid excessive pruning
- Avoid excessive nitrogen fertilization
- Use cultivars that are less prone to cat facing. Heirloom varieties tend to be more prone to cat facing than non-heirloom varieties.

Also, maintain consistent watering and even moisture to avoid a sudden "burst" of growth.

More Information: Fact Sheet / References

- Rutgers FS678, *Growing Tomatoes in the Home Garden*, read [here](#).
- Rutgers Heirloom variety study, read [here](#).
- UC Davis , *Tomato Catface/Cracking*, read [here](#).
- U Mass article, *Tomato Cat Facing*, read [here](#).

Pest: Bean-Leaf Beetle

Where: Home Garden, Denville NJ

Description: Adult Bean-Leaf Beetles feed on leaves of legume vegetables such as green beans, butter beans, and southern peas, leaving small holes in the leaves. Gardeners most often notice this damage on young, recently-emerged plants but sometimes have difficulty identifying the pest because bean leaf beetles vary in color. Many are tan with black markings, but they can also be red, pink, or salmon colored, and may or may not have the black markings. The more colorful specimens are often mistaken for lady beetles. All bean leaf beetles have a black triangular-shaped spot on the forward edge of the wings, which distinguish this beetle from similar looking species. The larvae feed underground on the roots and nitrogen-fixing nodules. Adult beetles will also chew holes in the pods, and they vector several important virus diseases, but it is the early damage to seedling beans and peas that causes most concern in home gardens. Bean leaf beetles overwinter as adults, and beetles emerging from overwintering are very good at finding the first young legume seedlings in the area.



Adult Bean Leaf Beetle (M. Sample)



Bean-Leaf Beetle Damage (IA State)

Suggestions:

Rutgers recommends the following:

1. Sanitation is very important. Destroy plant residue immediately after harvest to prevent population build-up.
2. Late planting of beans will avoid most injury by bean leaf beetles. Seed beans around mid-June to escape most damage by over-wintering adults.
3. Beetles can be collected by hand and destroyed, although this may be impractical when the population reaches a high level.
4. Reduce available legume plants nearby (red clover, alfalfa) to reduce attractive host plants for overwintering beetles.

More Information: Fact Sheet / References

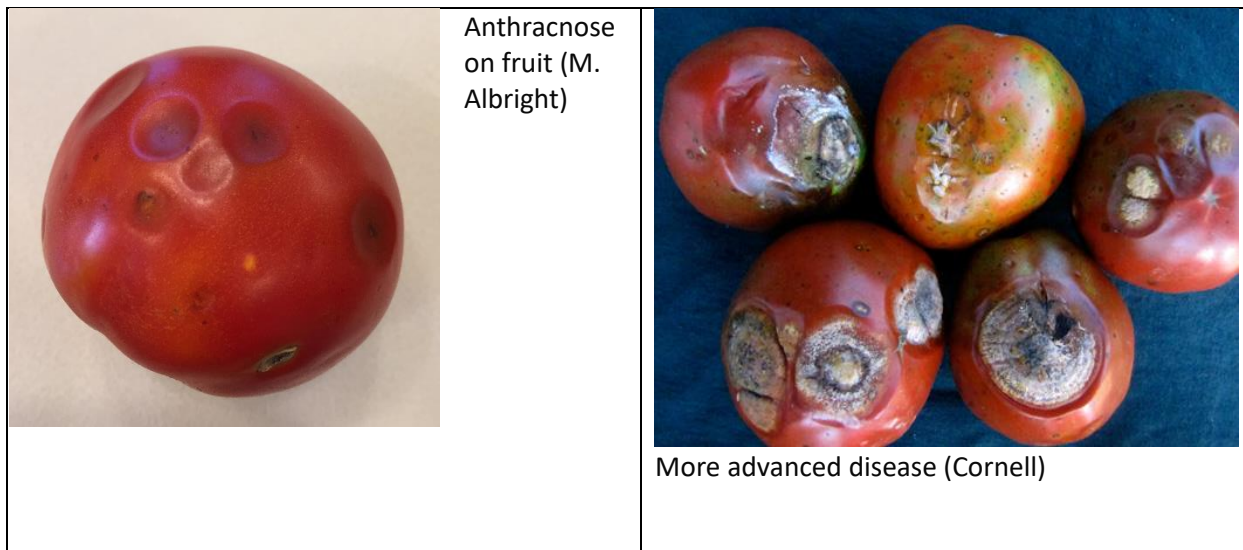
- Rutgers FS241, *Bean-Leaf Beetle*, read [here](#).
- UMN article, *Bean Leaf Beetles in Home Gardens*, read [here](#).
- IA State article, *Bean Leaf Beetle*, read [here](#).

Problem: Anthracnose on Tomato Fruit

Where: Home Garden, Morris Twp.

Description:

Anthracnose fruit rot is a soil-borne disease that affects ripe tomato fruit. Infections go unnoticed on green fruit and as fruit ripens depressed circular water-soaked spots appear on red fruit. These spots may slowly enlarge and produce black fungal structures (microsclerotia) in the center of the lesion just below the skin surface. Microsclerotia can overwinter in the soil and infect tomatoes the next growing season.





Suggestions:

- Remove old plant debris, including tomatoes on the ground, since fungal spores can overwinter in infected plant material.
- At the end of the growing season remove and discard all tomato refuse.
- Each year plant tomatoes in a new location away from areas where tomatoes, eggplant, potatoes or peppers were grown in the past three years.
- Make sure tomatoes have good air circulation to dry the leaves. Staking or caging tomatoes brings the plants up off the soil and allows more rapid drying of the plant.
- Water at the base of the plant to keep leaves from getting wet.

More Information: Fact Sheet / References

- Rutgers FS547, *Diagnosing and Controlling Fungal Diseases of Tomato in the Home Garden*, read [here](#).
- Cornell University, *Anthracnose on Tomatoes*, read [here](#).

<p>Problem: Sunscald on Peppers and Tomatoes</p>	<p>Where: Various Gardens, Morris County</p>
<p>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.</p>	
 <p>Sunscald on pepper fruit (M. Albright, 2019)</p>	 <p>Plant has suffered foliage loss, sunscald is just starting (D. DuBrule, 8/20)</p>

Suggestions:

- Maintain healthy plants with plenty of foliage.
- Plant pepper varieties that resist diseases that defoliate the plants. One such disease, Bacterial Leaf Spot, was seen on many pepper plants in the garden this week.
- 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.

More Information: Fact Sheet / References

- Rutgers FS678, *Growing Tomatoes in the Home Garden*, read [here](#).
- University of IL Fact Sheet, *RPD No. 939, Sunscald of Pepper and Tomato*, read [here](#).
- UMD, *Sunscald - Vegetables*, read [here](#).

The Rogue's Gallery – Weed Spotlight**Field Bindweed (*Convolvulus arvensis*)**

Description: With flowers that resemble morning glory, to which this is related, a gardener might be tempted to let it grow. Don't! This insidious, invasive common weed will overrun a garden in no time, insinuating its tendrils amid other plants (seen above with strawberry) and its deep fleshy rhizomes deep into the soil. UMD warns, "dig up and remove from area as soon as possible after germination; collect and discard all parts of stem as they easily set new roots."

References

- UMD article, *Bindweed*, read [here](#).
- UIL article, *Bindweed: The Vines that Bind (to Turf and Ornamentals)*, read [here](#).

Beneficial Spotlight

Brook Snaketail Dragonfly



Description:

You never know who you will meet in your garden – Margot Sample captured a photo of an endangered Brook Snaketail Dragonfly resting briefly on one of the zucchini plants in her vegetable garden.

The Conserve Wildlife Foundation of New Jersey says, “Of the four snaketail species known to breed here, the rarest is the brook snaketail. The first New Jersey colony was not discovered until 1986 in the Whippany River watershed in Morris County. Since then, an additional four colonies have been found in the Skylands and Ridge and Valley regions. This highly localized species also inhabits small segments of the Musconetcong, Walkkill and Flat Brook watersheds.”

Adult dragonflies feed on insects, which they can catch in flight, and therefore are a friend to the gardener in helping to keep pest populations low. You can read the Conserve Wildlife NJ Foundation article [here](#).

ADDITIONAL RESOURCES

COVID-19 Resources <https://njaes.rutgers.edu/covid-19/>

Community Gardening Series <https://njaes.rutgers.edu/community-garden/>

All 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/>

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

To help Community Gardeners identify and manage insect pests and diseases, a team of Rutgers Master Gardeners conducted weekly inspections in two Community Gardens during the 2018 and 2019 growing seasons. They wrote weekly reports on problems they observed including insect pests, diseases, and other issues.

Due to Covid-19 restrictions during 2020, the team is reporting on problems observed in their own vegetable garden plots rather than inspecting community gardens. One of the 2020 goals is to remain consistent in reporting any findings to benefit the New Jersey community gardeners, by maintaining some continuity in the gardening season schedule and outcomes. Their 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, Morris Plains, Morris Township and Chatham Township.

An integrated pest management approach relies on a solid monitoring foundation. Prevention is also key. By scouting for pests and diseases, while employing mechanical, biological, cultural and chemical tools, the findings can be effectively evaluated allowing for best management practices

Report Editor: Diane DuBrule

Sightings reported by: Mary Albright, Mary Olin, Margot Sample, Jennifer Basile