

RUTGERS MASTER GARDENERS OF MORRIS COUNTY
COMMUNITY GARDEN IPM TEAM REPORT #8
August 7, 2026



WHAT'S IN THIS REPORT?

Tips

- Planning when to plant fall crops

New Problems

- Tomato fruit worm (aka Corn earworm)
- Hornworm
- Bean common mosaic virus
- Buckeye rot on tomatoes
- Bulb mites on garlic

Spotlight

- Green lacewing (beneficial)
- Look-alike butterflies (beneficial)

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.

IPM Team Reports are available on the Rutgers Morris County Master Gardener website: [Morris County Master Gardener website](#). Scroll to the bottom of the page to view the reports. On the website, you can also 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

August is here and, although it is still summer, the days are growing shorter bit by bit and a foreshadowing of autumn is creeping upon us. This is the time when the plenty from our gardens fills us with pride and it is easy to be open-handed in giving away or donating the excess produce we are harvesting. It is also the time when warm, wet and humid weather can set up ideal growing conditions for a variety of different plant diseases.

All is not lost if you lose some of your crops to plant diseases that put in an appearance around this time. Remove the ailing plants and sow cool weather crops in the open spaces in your garden plot. You will be glad you did when they are ready for harvest a few weeks from now.

TIP: PLANTING FALL CROPS

Mid-summer, when warm season crops like tomatoes, peppers and green beans are setting and ripening their fruits, is the perfect time to think about what you might like to plant for the cooler fall season. Many of the vegetables gardeners grow in early spring can be good candidates for replanting in summer for a fall harvest. Why? Because they

prefer cooler temperatures. How do you decide when to plant in order to ensure enough time for your fall vegetables to produce a harvest? Here are a few considerations to keep in mind to help your fall crops be successful.

- Determine the average first frost date for your area.
- Check seed packets for information on number of days required for germination and number of days until harvest after germination.
- Research whether the plant variety is able to withstand a slight frost.
- Plant for harvest the following year.

You will, of course, need to make space for your choices in a plot that may already be brimming over with warm weather vegetables. If you have recently harvested last year's garlic planting, that space can now be dedicated to fall crops. Loss of summer plantings to insect damage or disease can also create open spaces in the garden. But how do you determine if there is enough time to plant different seed varieties and reasonably expect to get a harvest? There is a handy equation, given here, that utilizes three key pieces of information.

First Frost Date minus (Days to Harvest plus Germination Days) = Last Possible Sowing Date

Determine the Average First Frost Date - Knowing the average first frost date for your area is a key piece of information for determining when to plant seeds for fall crops. Seeds need time to germinate and plants to develop to a harvestable size. This is the first vital piece of the equation. There are websites that provide information on this topic.

- **The National Oceanic and Atmospheric Administration (NOAA)** offers U.S. maps using color coding. The associated key assigns a first frost date range based on the average of Years 1991 through 2020.
- **The National Gardening Association** uses data from the NOAA to provide average dates but in a more user-friendly fashion. Their website allows searching on a specific zipcode (scroll down to the bottom of the webpage). The data is then presented in a table format with a range of temperatures and the percentage likelihood of their occurrence on a specific date, allowing you to make an informed decision based on your level of comfort with risk. They also provide a clear explanation on how to read the charts.

Links for both these websites appear below under References.

Check Seed Packets – Seed packets generally provide information on how many days are required for germination and, once germination occurs, how long before the plant is likely to be ready for harvest. These are the second and third vital pieces of the equation to help determine whether the varieties you selected will have enough time to reach maturity. To determine the last possible planting date for your seeds, count back from the First Frost Date the combined number of Germination Days plus Days to Harvest. This will give you the last possible date by which you should have your seeds in the ground.

Research Plant Tolerance to Frost

When choosing plant varieties for the fall garden, frost tolerance is a valuable attribute. Some plants are able to withstand a light frost without being killed. This is desirable since frosts can occur unexpectedly. If plants in the fall garden are not frost tolerant, it may still be possible to include them if protective row covers are used. Advice on likely fall crops can be viewed at the website on fall Planting for the Vegetable Garden listed under References below.

Here is an example of how to use the Fall planting equation.

If I wish to plant a fall crop of Swiss chard and I have a 50% risk tolerance, what is the last possible date I should sow the seeds? In this example, I still have plenty of time to get my seeds planted.

$$\text{First Frost Date minus (Days to Harvest plus Germination Days) = Last Possible Sowing Date}$$
$$\text{October 23 minus (58 days + 10 days) = August 17}$$

Using this handy equation can help you decide what to grow in your fall garden. Planting before the Last Possible Date is preferred since it will potentially allow time for the seedlings to grow larger and produce more.

Planting for Harvest Next Year

Many gardeners enjoy planting allium crops such as garlic or shallots late in the fall for harvesting the following summer. In this case, the idea is to plant garlic cloves or shallot bulbs when the soil is cooler but not frozen, thereby giving them time to form a healthy root system so they can send up shoots early the following year. Order your garlic or shallot bulbs now to have the best choice among the different varieties. Some varieties sell out quickly. Do not use garlic heads from the supermarket as they may have been treated to prevent sprouting and they may be varieties not well adapted to our region.

References:

- National Oceanic and Atmospheric Administration (NOAA): [When to Expect the First Fall Freeze | News | National Centers for Environmental Information \(NCEI\)](#)
- National Gardening Association: [Frost Dates: First and last frost dates by zipcode - Garden.org](#)
- Rutgers University: [FS129: Planning a Vegetable Garden \(Rutgers NJAES\)](#)
- Cornell University: [Cornell Cooperative Extension | Fall Planting for the Vegetable Garden](#)

REPORTS ON NEW PROBLEM

Problem: Tomato Fruitworm aka Corn earworm (*Helicoverpa zea*)

Where: Morris Township Community Garden, July 23 (caterpillar)

Description: Tomato fruitworms are one of the most damaging insect pests of tomatoes and many other fruits and vegetables. The adults are nocturnal moths 3/4 inches in length with a wingspan of 1-1/2 inches. Color variation ranges from olive green through reddish-brown. Female moths lay tiny white eggs on the bloom clusters of host plants which include corn, tomatoes, peppers, squash, pumpkin, leafy greens and snap beans, among others. Eggs hatch in 2 to 8 days producing caterpillars which reach maturity in 2 to 4 weeks.

The young caterpillars will feed on leaves at the start but they will soon seek out fruit into which they tunnel. A single caterpillar may damage several fruits before it reaches maturity and drops to the ground to pupate. Pupation occurs in the soil taking 10 to 14 days to complete. The moths then emerge and begin the cycle again.

Fruitworms reach 1-1/2 to 2 inches and vary in color from light green to brown according to what type of plant they are consuming. Most have alternating light and dark stripes running the length of their body.



Figure: Tomato fruitworm (aka Corn earworm) moths.
Photo: Rutgers University



Figure: Tomato fruitworm feeding on a tomato.
Photo: Iowa State University



Figure: Closeup of Tomato fruitworm on tomato leaf.
Photo M. Olin, NJAES

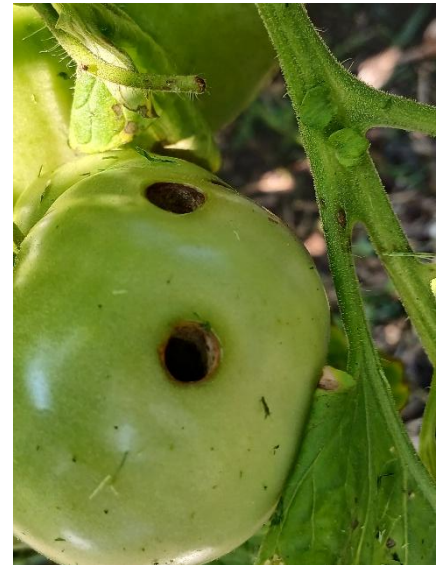


Figure: Green tomato damaged by Tomato fruitworm. Note the two holes where the caterpillar tunneled into the fruit.
Photo: M. Olin, NJAES

Management:

- Fruitworms generally appear in late July in South Jersey and early August in North Jersey. Check your crops frequently for caterpillar damage and remove caterpillars before they have a chance to damage fruits.
- Harvest ripening fruit as soon as possible, as the longer the fruit is on the plant exposed to fruitworm attack, the greater the chance of infestation.
- Products containing spinosad will control fruitworms.

References:

- Rutgers University: [Corn Earworm \(Rutgers NJAES\)](#)
- Mississippi State University: [Tomato Fruitworm, No 10 | Mississippi State University Extension Service](#)
- Iowa State University: [Tomato fruitworm | Yard and Garden](#)

Problem: Tomato and Tobacco Hornworms (*Manduca spp.*)

Where: Morris Township Community Garden, June 23 (caterpillar)

Description: Tomato Hornworm, *Manduca quinquemaculata*, and Tobacco Hornworm, *Manduca sexta*, are foliage and fruit eaters and can be found on the Solanaceae family including tomatoes, peppers, potatoes and eggplant. Adults are gray moths with 4-5 inch wingspan, aka hawk moths, that emerge in early summer and feed on flower nectar at dusk. Females lay eggs, singly, on the underside of leaves. Eggs usually hatch in a week after which the larvae then voraciously feed for a month. They burrow within the soil to pupate. There can be two generations a year.

Tomato and Tobacco Hornworms are nearly identical. Differences between them are that the Tobacco Hornworm has seven white diagonal stripes and a red “horn” on its tail, whereas the Tomato Hornworm has eight V-shaped stripes and a green “horn”. Both varieties will feed on tomato plants.

Although they are large caterpillars, Hornworms often escape notice because their coloration blends in well with the foliage they are consuming. Gardeners often overlook them until evidence of attack by predatory wasps becomes apparent. The Braconid wasp lays its eggs on the caterpillar and, upon hatching, the wasp larvae burrow into the caterpillar and consume it from the inside. When ready to pupate, they form cocoons resembling grains of white rice on the caterpillar's back as seen in the photo below,



Figure: Tomato hornworm.
Photo: P. Nitzsche, NJAES



Figure: Tobacco hornworm.
Photo: Rutgers University



Figure: Braconid wasp cocoons on a parasitized hornworm.
Photo: Rutgers University

Management:

- Scout plants for hornworms throughout the season. Because they are wonderfully camouflaged, sometimes the telltale sign is simply finding your foliage has gone missing.
- Carefully handpick and destroy only those without cocoons.
- In the fall, clear all plant debris and till to destroy any pupae that may be in the soil.
- Practice a 3 year crop rotation plan.

References:

- Rutgers University: [FS1389: Hornworms in the Home Garden \(Rutgers NJAES\)](#)
- University of Minnesota: [Tomato hornworms in home gardens | UMN Extension](#)

Problem: Bean Common Mosaic Virus (*Potyviridae* family)

Where: Morris Township Community Garden, July 23

Description: Plants infected with Bean Common Mosaic Virus (BV-1 or BCMV) may exhibit a mottled pattern of light yellow and green on leaves or a band of darker green may follow the leaf veins while the rest of the leaf remains green. Leaves may become puckered or malformed and often exhibit a downward cupping of the entire leaflet. This disease can stunt the plants and reduce yield. There is no cure and removal of infected plants is recommended to help stem the spread of the disease.

BCMV is spread by aphids which acquire the virus by feeding on infected plants. However, disease transmission is non-persistent, meaning the aphids will readily acquire the virus via feeding but will only continue to transmit it for a few days to a week. This disease is also carried by seed upon which it can survive up to 30 years.

There are a number of bean varieties that are resistant to BCMV. To learn more, visit the Cornell University website ([link in Resources below](#)).



Figure: Bean Common Mosaic Virus showing crinkled leaves and pronounced mottling.

Photo: M. Olin, NJAES



Figure: Symptoms of Bean Common Mosaic Virus include mottled coloration and downward cupping of leaves.

Photo: M. Olin, NJAES



Figure: Healthy bean leaflet.

Photo: M. Olin, NJAES

Management:

- Plant certified disease-free seed.
- Avoid planting beans near other legumes.
- Practice aphid control early in the season. Foil/reflective mulch may help deter aphids.
- Support top aphid predators, such as lady beetles and green lacewings, by planting flowers from the carrot family (Golden Alexander, Cilantro, Fennel, Dill, Parsley) and the aster family (Zinnia, Marigold, Calendula, Echinacea, Sunflowers, Yarrow).
- Destroy infected plants to help limit the spread of disease.

References:

- University of Connecticut: [Bean Viruses | Integrated Pest Management | College of Agriculture, Health and Natural Resources | University of Connecticut](#)
- Washington State University: [Bean: Common and yellow mosaics | Hortsense | Washington State University](#)
- Cornell University: [Disease-resistant bean varieties | Cornell Vegetables](#)

Problem: Buckeye Rot (*Phytophthora capsica* and *Phytophthora deechleri*)

Where: Madison Community Garden, July 24

Description: Buckeye rot is caused by an oomycete which is a water mold. This soil-borne organism causes rot on tomatoes, peppers and eggplant, generally on fruit lying on or near moist soil. When the soil is saturated, it stimulates existing sporangia present in the soil to release zoospores which are motile (able to move under their own power) which then infect the fruit.

A grayish-green or brown water-soaked spot developing where the fruit touches the ground is the first indication of infection. As the lesion expands on the surface of the fruit, it develops a characteristic pattern of alternating light and dark brown concentric rings with no clearly defined margin. The skin surface of the fruit remains smooth and firm. This is a distinguishing feature when compared to late blight (*Phytophthora infestans*) which causes clearly defined, dark brown spots and a rough surface.

Though fruit infected with Buckeye rot initially remains firm, it can be invaded by soft rot bacteria as the disease progresses. This can lead to soft, mushy fruits.



Figure: Buckeye rot on tomato showing the alternating light and dark concentric rings.
Photo: Cornell University



Figure: Concentric rings indicative of Buckeye rot are clearly visible on this tomato which had been resting on the ground.
Photo: B. Monaghan, NJAES

Management:

- Stake or cage plants to limit foliage and fruit contact with the soil.
- Mulch early with straw or landscape fabric to prevent rain splash.
- Remove all infected fruit immediately and do not put in compost piles.
- Plant resistant cultivars, if available.

References:

- Rutgers University: [FS547: Diagnosing and Controlling Fungal Diseases of Tomato in the Home Garden \(Rutgers NJAES\)](#)
- Virginia State University: [Colorado Potato Beetle | VCE Publications | Virginia Tech](#)
- Cornell University: [Buckeye fruit rot on tomatoes | Long Island Vegetable Health](#)

Problem: Bulb mites in garlic (*Rhizoglyphus* spp, *Acera tulipae*)

Where: Morris Township Community Garden, June 28 and problem worsening by July 7

Description: Bulb mites (usually *Rhizoglyphus* spp) often cause stunted plants with yellowing of the leaves and brown leaf tips. Later in the season there is often rot where the mites have fed. The mites feed mainly on roots and at the basal plate area (area between the bulb and roots). The roots often separate easily from the garlic bulb due to mite feeding and rot. Plants pull out easily because of root damage. The mites are very small (from 0.02 to 0.04 inches) and slow moving. They are usually found in clusters underneath scales and at the base of the roots. In storage, the mites move into the garlic bulb, where their feeding activity causes sunken tan to brown spots on cloves. Disease may also occur on the cloves during storage because of the feeding.

The mites can overwinter in soil and also survive in stored garlic. Infected seed is a common way mites are introduced into a field.



Figure: Garlic planting with some severely stunted and brown plants – see circles.



Figure: Damaged roots and basal plate area of one of the plants in the circles to the left. The three tiny white dots on the lower right are bulb mites. An examination with a hand lens and microscope showed many more bulb mites. Photo: M. Albright, NJAES



Figure: Microscope view of bulb mites. Bulb mites are usually less than .01 to .04 inches long. Photo: Utah State University

Management:

- Plant with clean seed.
- Mild mite infestations are often mitigated by the process of drying bulbs before storage.
- Clean bulbs before storage and store in cool temperatures with low relative humidity.
- Do not plant another member of the Allium family in the same area for at least four years. Control wild Allium species in the vicinity.

References:

- University of Maryland: [Garlic Bulb Mites | University of Maryland Extension](#)
- University of Massachusetts: [Bulb Mites : Vegetable : Center for Agriculture, Food, and the Environment \(CAFE\) at UMass Amherst](#)
- Utah State University: [Bulb Mites | USU](#)

BENEFICIAL SPOTLIGHT

Beneficial Insect: Green lacewing (*Chrysoperla carnea*)

Description: Adult green lacewings are delicate, pale green insects, about ½ to ¾ inch long. Their long antennae, golden eyes, and large, transparent wings make them easy to recognize. Most active at dusk and night, they fly with a distinctive fluttering motion. Their larvae, often called “aphid lions,” look like tiny yellow, brown, or gray alligators up to ½ inch long, and use their curved jaws to feed on soft-bodied pests. In spring and summer, females lay pale green oval eggs singly on long silken stalks attached to leaves and twigs near prey. Eggs turn bluish green then gray after several days. Larvae emerge in 3-6 days and develop through three instars in two to three weeks before spinning a round, silken cocoon on plants. Adults emerge 10-14 days later. The summer life cycle takes less than four weeks, with two or more generations a year.

Range and prey: Green lacewings are among nature’s most helpful pest managers. *C. carnea* is found in northeastern, midwestern and western U.S. Lacewing larvae, often called “aphid lions,” are beneficial, voracious generalist predators that feed on soft-bodied pests, including aphids, beetle larvae, caterpillars, lace bugs, leafhopper eggs, leafminer eggs, mealybugs, moth eggs, planthoppers, scale insects, spider mites (especially red mites), thrips and, in studies, citrus thrips, the tobacco budworm, whiteflies, and more.

Habitat support: Lacewings thrive in gardens with flowering plants, abundant prey, and minimal pesticide use. Young larvae need moisture to survive, while adults rely on nectar, pollen, and honeydew for food. Herbicides can reduce floral and nectar availability crucial to lacewing survival. Planting a wide variety of flowering species can help attract and support lacewings throughout the growing season. Ants are major predators of lacewing eggs and larvae. Green lacewings are also available commercially as a biological control. Released larvae tend to stay where pests are plentiful, while adults might disperse in search of food before laying eggs.



Figure: Adult Green lacewing.
Photo: D. Tyson, NJAES



Figure: Green lacewing larva.
Photo: L. Voo, NJAES

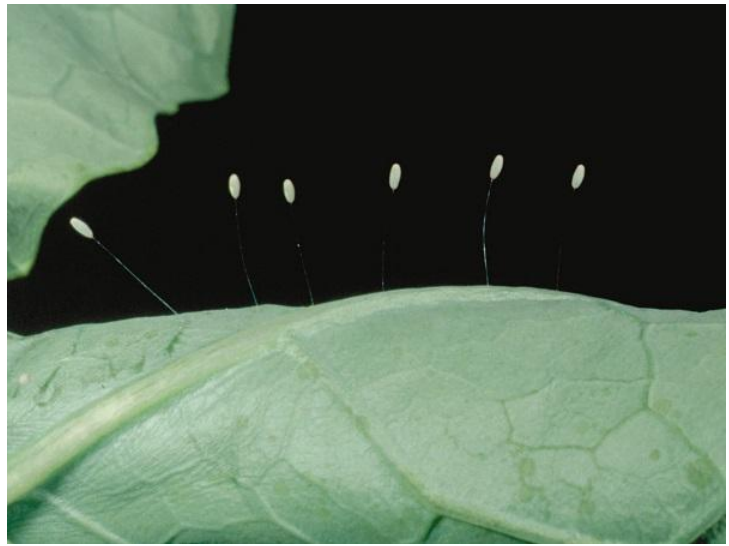


Figure: Green lacewings lay individual eggs suspended at the end of a long hair-like stalk to protect them from predators.
Photo: University of Kentucky

References:

- Cornell University: [Common Green Lacewing Biocontrol Agent Factsheet](#) | [Cornell IPM Biocontrol Fact Sheet](#)
- University of Maryland: [Lacewings](#) | [University of Maryland Extension](#)
- University of Kentucky: [Green Lacewing](#) | [Entomology](#)

SPOTLIGHT – JUST FOR FUN

Look-alike Butterflies: Monarch (*Danaus plexippus*) and Viceroy (*Limenitis archippus*)

Monarch butterflies and Viceroy butterflies look very much alike. Can you spot the differences?

Both butterflies are in the Nymphalidae family (brush-footed butterflies) but assigned to different sub-families (*Danaus* and *Limenitis*). The host plant for Monarchs is milkweed. For Viceroys, the primary host plants are willow and poplar. Viceroy butterflies may sip nectar from milkweed flowers but their caterpillars do not eat milkweed leaves.

Monarch butterflies migrate south for winter because they cannot survive the colder temperatures further north. Viceroys, however, can overwinter. Late in the fall, partially grown caterpillars shelter within a rolled leaf tip and overwinter there.



Figure: Monarch butterfly.
Photo: University of Colorado



Figure: Viceroy butterfly.
Photo: Missouri Dept. of Conservation

Hint: Check the following:

- Rows of dots along the black wing edges.
- Horizontal lines across the hind wings.

References:

- University of Colorado: [Monarch butterfly | Museum of Natural History | University of Colorado Boulder](#)
- Missouri Dept. of Conservation: [Viceroy | Missouri Department of Conservation](#)

ADDITIONAL RESOURCES

All Rutgers Gardening and Landscaping Fact Sheets & Bulletins: [Publications Category \(Rutgers NJAES\)](#)

Rutgers University NJAES: [Gardening and Landscaping Fact Sheets & Bulletins](#)

Rutgers University Cooperative Extension: [Rutgers Master Gardener Program](#)

Rutgers University Cooperative Extension: [Rutgers Soil Testing Laboratory](#)

Rutgers University Cooperative Extension: [Community Gardening Series](#)

Rutgers University NJAES ONJSC: [Office of the New Jersey State Climatologist](#)

Rutgers University NJAES: [Rutgers New Jersey Weather Network](#)

Rutgers University Cooperative Extension: [Ticks and Tick-borne Disease](#)

Rutgers University NJAES: [You Tube Channel](#)

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Just for Fun Spotlight: M. Olin, NJAES

Bulb Mites Writeup: M. Albright, NJAES

Buckeye Rot Writeup: B. Monaghan, NJAES and M. Olin, NJAES

Tomato Fruitworm Writeup: M Olin, NJAES