RUTGERS
New Jersey Agricultural Experiment Station

Rutgers Master Gardeners of Morris County Community Garden IPM Team Report #3 May 19, 2023

WHAT'S IN THIS REPORT		
TIPS	**NEW PROBLEMS SEEN**	**SPOTLIGHTS**
• Row Covers	• Spittlebugs • Aphids • Colorado Potato Beetle • Three Lined Potato Beetle	• Mugwort (weed)

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.

Tip: Row Covers

First used commercially in the mid 1980's, floating row covers can help prevent frost damage, extend spring and fall growing seasons, and prevent insect damage. Floating row covers are made from spun-bonded or woven plastic, polypropylene, or polyester. Depending on the thickness, the covers can let 90 percent of sunlight pass through them, and almost all rain or irrigation. When used for season extension, a heavier gauge should be used. If used for insect protection, a lighter gauge should be placed over the crop as soon as seeds or transplants are planted. To ensure success, put the covers in place at the time of planting and secure them so insects cannot get under the row cover. This means the edges should be buried or tightly secured around the perimeter of the planting. Be sure that your plants are insect free before planting and covering them. If growing vegetables that require pollination, such as cucurbits (for example, squash and cucumbers), the covers must be removed when the plant starts to flower. Using floating row covers can prevent damage and various diseases which are caused by insects such as allium leaf miners, flea beetles, cabbageworms, and cucumber beetles. Row covers, combined with crop rotation, are a versatile way to increase gardening success.

Floating Row Cover
Photo: Mary Albright, NJAES

REPORTS ON NEW PROBLEMS

Problem: Aphids ***(Aphis spp.)***	**Where: Morris County Community Garden (May 8)**

Description: Aphids can overwinter as eggs on bark or buds and become active in early spring. They are small, 1/16" to 1/8" long, soft-bodied, pear-shaped insects that range in color from pink, green, bluish green, black, brown, tan, or yellow. Aphids suck the juices from plants, which causes the leaves to curl and wilt. The sweet honeydew excreted by aphids often attracts ants. Aphids will flourish with temperatures of 65-80 degrees and reproduce rapidly with several generations a season.

Aphids on underside plum leaf
Photo: J. Williams, NJAES

Aphid found on Calendula
Photo: J. Basile, NJAES

Winged aphid on horseradish leaf
Photo: S. Brighouse, NJAES

Management:

- Encourage beneficials such as ladybugs and lacewings, which feed voraciously on aphids.
- Use a strong stream of water to knock aphids off plants.
- Avoid over-fertilization with nitrogen, as the lush growth that results makes the plants especially
- attractive to aphids.
- To avoid spread of the problem, remove severely affected plants from the garden.
- As a last resort, spray with insecticidal soap or neem.

References

- Rutgers Fact Sheet FS230, Aphids on Vegetables: https://njaes.rutgers.edu/fs230/

Problem: Spittlebug *(Cercopidae spp.)*	**Where: Morris County Community Garden (May 8)**

Description: According to the University of Connecticut, spittlebugs are common and easily recognized by the white foamy 'spittle' produced by the nymph or immature stage of the insects as they feed. Adults are less commonly seen but are known as froghoppers (close relatives of leafhoppers, etc). There are anywhere from 30 to 60+ spittlebug species in the United States. All feed on plants, including both woody and herbaceous types. Some spittlebugs have broad host ranges and others narrow. There is usually only one generation per year and most overwinter in the egg stage inside overwintering plant tissue where they were deposited by the females in mid to late summer to early fall, depending on species. Hatch occurs in the spring, probably in May. Even though Spittlebugs feed by extracting plant sap/juice through needle-like mouth parts, they seldom cause notable injury to the plant. There are a few exceptions including the meadow spittlebug (*Philaenus spumarius*) and the pine spittlebug (*Aphrophora cribrata*).

Spittlebug foam on mint plant
Photo: S. Brighouse, NJAES

Adult meadow spittlebug.
Photo: Cheryl Moorehead, Bugwood.org/UCONN Edu

Management: Spittlebugs are unlikely to cause significant damage to either vegetable or ornamentals. According to UConn, "the biggest problem with spittlebugs in the garden, whether it's an ornamental or food garden, is the unsightliness of the spittle masses. Spittle and nymphs can both be washed off the plants with a steady stream of water. Normally, no chemical controls are recommended, and the spittle protects nymphs from contact insecticides. Not sure if there are enough spittlebugs to cause plants to be weakened? Look for distorted or stunted new growth, and of course numerous spittle masses on the same plant."

References:

- UConn Extension, Spittlebug: A Unique Little Insect: https://bugs.uconn.edu/2017/07/24/spittlebug-a-unique-little-insect/#

Problem: Pest: Colorado Potato Beetle ***(Leptinotarsa decemlineata)***	**Where: Morris Township Community Garden (May 15)**

Description: Adult Colorado Potato Beetles overwinter in the soil and emerge in early spring, laying bright, orange-yellow eggs in small clusters on the undersides of the leaves of host plants in the *Solanaceae* family. Both adults and their larvae will feed on the foliage of potatoes, eggplant, tomatoes, peppers, groundcherry and other nightshade plants. The Colorado potato beetle is approximately 3/8th of an inch long and has a black and yellow striped body with an orange head. A second generation will emerge in late summer then overwinter in the soil. If not controlled, they can reproduce rapidly and defoliate plants. Monitor and destroy to disrupt any future infestations.

Colorado Potato adult with yellow eggs on underside of leaf.
Photo: Rutgers Fact Sheet 224

Newly hatched red-orange larvae eating leaves. Shows whole leaf damage happens quickly.
Photo: Rutgers Fact Sheet 224

Adult sitting on potato leaf
Photo: M. Olin, NJAES

Management:

- Colorado Potato Beetle adults and larvae can be effectively hand-picked.
- Destroy beetles and their larvae by crushing or placing them in a can of water with a few drops of dish detergent. Be sure to scout under leaves for their yellow eggs and remove/crush them.
- Row covers can protect young plants and prevent the beetles from reaching crops.
- Rotate crops each year, plant *Solanaceae* family as far as possible from previously infected area.
- A biological insecticide, *Bacillus thuringiensis var. tenebrionis*, is available (Novodor). This biopesticide utilizes a bacterium that kills small potato beetle larvae when used according to label directions.

References

- Rutgers University Fact Sheet FS224 https://njaes.rutgers.edu/pubs/publication.php?pid=FS224
- University of Maryland https://extension.umd.edu/resource/colorado-potato-beetle-vegetables
- Cornell University http://web.entomology.cornell.edu/shelton/veg-insects-ne/pests/cpb.html

Problem: Three-lined Potato Beetles ***(Lema daturaphila)***	**Where: Morris Township Community Garden (May 15)**

Description: Three-lined Potato Beetles are found on plants in the family Solanaceae. Both adults and larvae feed on leaves including tomatillo, potato, and sometimes tomato and eggplant. Damage to tomatillos can be severe. Eggs are yellow and often found on the underside of leaves. Both adults and larvae feed on leaves. Gardeners sometimes mistake three-lined potato beetle adults for striped cucumber beetles.

Three lined Potato Beetle
Photo M. Albright, NJAES

Eggs of Three-lined Potato Beetle on underside of leaf
Photo M. Albright, NJAES

Three-lined Potato Beetle larvae on defoliated leaf
UNH Cooperative Ext.

Management:

- The eggs, larvae, and adults can be handpicked.
- Floating row covers are an effective barrier to the beetles while the plants are small.
- Neem and pyrethrins can be used. As with any pesticide, be sure the plant and pest is listed on the label and use according to instructions.

References

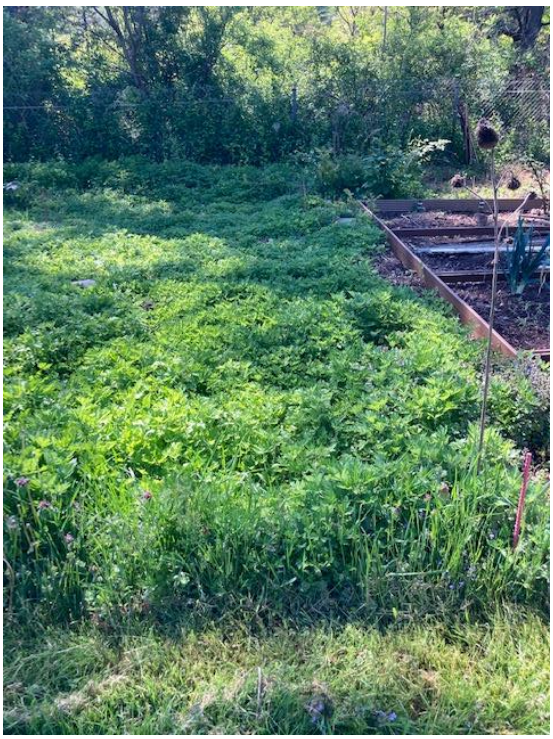
- Rutgers NJAES, Three-lined Potato Beetle, FS242: https://njaes.rutgers.edu/pubs/publication.php?pid=FS242

WEED SPOTLIGHT

Mugwort
(Artemisia vulgaris)

Description: Mugwort is an herbaceous clump-forming perennial. Highly invasive, it is difficult to control once established. The plant reaches a height of four feet and has an odor similar to chrysanthemums. It reproduces by both seed and a spreading rhizomal system.
Control of mugwort is best accomplished by cutting the plant to the ground, and then covering with a tarp or cardboard with mulch on top of that. The longer the coverings are in place, the better the results. Do not till the mugwort. This will cut up the rhizomes forming many more new plants. As with most weeds, early eradication is easier and more successful early in the Spring.

Mugwort
Photo: B. Monaghan, NJAES



A community garden plot overgrown with Mugwort
Photo: B. Monaghan, NJAES

References

- University of Maryland https://extension.umd.edu/resource/mugwort

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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