

**WHAT'S IN THIS REPORT**

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*GARDENS SCOUTED FOR THIS REPORT: ValleVue Preserve Community Garden in Morris Township*

**GENERAL OBSERVATIONS AND TIPS**

The IPM Team returns to our local community gardens for an eight year! We are happy to expand into scouting our fifth garden, The Randolph Community Garden, and look forward to meeting these new CG'ers. This sizeable garden consists of 168 plots, was established in 2020, and is located in Veterans Community Park.

Attached with this first report are two files that include the top problems and the historic data accumulated for your use. These will help you understand when to expect, prevent, and manage any problems. The Top Problems report includes the most frequent problems that the IPM Team has observed over the past seven years. The report includes the first date they were observed during that period. The First Sightings report gives a visual view of the team's first sightings data of all problems reported on between 2019 and 2024. Please review the dates of sightings as you prepare your plot. Early sightings of Allium Leaf Miner adults and egg laying were first reported in Cape May on March 24<sup>th</sup>, so lookout for their presence in Morris County soon. Our weekly walks will continue with findings reported every other week. We hope you enjoy a wonderful growing season filled with abundance and thank you for reading! We always enjoy hearing your feedback.

\*\*\*Refer to Rutgers Fact Sheet 1123 and 1124 for all recommended controls for insects and disease pests

<https://njaes.rutgers.edu/fs1123/> and <https://njaes.rutgers.edu/pubs/publication.php?pid=FS1124>. They are valuable resources to refer to throughout the growing season.

**GARDEN PLOT CALCULATION TIPS**



Photos L to R include lettuces, tomatoes, beans, summer squash, and greens. Plant what you like and what you use.

Photos: J. Basile, NJAES

Plot planning isn't a new concept, but calculating your crop, specific to your needs may be a new challenge. We are all eager to get back to tending our plots and eating the fresh veg, so finding all sorts of seedlings to purchase can be exciting or slightly overwhelming. Choices, choices, choices! For those advanced gardeners who have their seedlings started and know what they want, splendid. For those starting out or middle of the road, crop calculating may be for you. It is something to think about, economical, and is helpful to include when planning to grow for yourself or a family. Map your plot ideas out, always plant what you like and for how you will use it, i.e. fresh, frozen, or preserved. As usual, strive for resistant and high yielding varieties, use proper plant spacing, grow vertical, rotate crops, mulch, row cover, include herbs and flowers for beneficials, and regularly monitor your plot to help avoid pests and diseases.

The top crops we find in the gardens are greens, beans, cucumbers, peppers, tomatoes, and squash. Here are some examples of average yield for a 10' row. Yields will vary depending on varieties, spacing, successive planting, intercropping, but most importantly on thriving productive plants. It is a way to getting back to basics of what works for you and yours.

Vegetable	Spacing (in.)	Transplant or Seeds	Avg. Yield per 10' row
Beans, Snap, bush	4	Seed	6lbs.
Beans, snap., pole	3-6	seed	7lbs.
Cucumbers	9-12	Seed or transplant	8lbs.
Lettuce, Leaf, Romaine	8	Seed or transplant	15 heads
Lettuce, Bibb	6	Seed or transplant	20 heads
Peppers	15	Transplant	12 lbs.
Squash, bush	24	Seed or transplant	25 fruits
Squash, vine	36	Seed or transplant	20 fruits
Tomatoes	24	Transplants	50lbs.

For example, a 10' row is 120", bush beans can be spaced 4" apart, for 30 plants a row. Peppers spaced 15" apart is 8 plants a row. Cucumbers 9" apart would be 13 plants to a row. For Bibb or minihead lettuce, such as Little Gem, 6" apart for 20 heads a row. Other considerations would be to add growing your cucumbers, pole beans and baby winter squash on a trellis to maximize space.

Please check the resources below for detailed specifics, downloadable worksheets, and more. Enjoy your plants!

### RESOURCES

Rutgers University <https://njaes.rutgers.edu/fs129/>

US Dept. of Ag <https://www.nrcs.usda.gov/plantmaterials/mipmcot9407.pdf>

Virginia Cooperative Extension <https://www.pubs.ext.vt.edu/426/426-331/426-331.html>

West Virginia University <https://extension.wvu.edu/lawn-gardening-pests/gardening/garden-management/succession-planting>

## REPORTS ON NEW PROBLEMS

### Overwintered Cabbage Whiteflies, *Aleyrodes proletella*

### Morris Township Community Garden 3/27/25

**Description:** Overwintered Cabbage whiteflies were observed on overwintered *Brassica* plants in the Morris Township Community Garden. The grey spots on the whiteflies indicate that they are Cabbage whiteflies, *Aleyrodes proletella*. These pests are native to Europe, found worldwide, and have remained a pest in the Northeast since first finding in 1993. They are now established in Oregon and California, and they can overwinter in Canada. *Brassica* crop preferences include kale, brussels sprouts, broccoli, and cauliflower.

These small piercing sap suckers damage and deform foliage. Plants quickly become overrun, due to adults and nymphs equally feeding on plant sap. Their feeding leaves honeydew (feces) behind, with sooty mold fungus to follow. With favored host plants available throughout winter, in addition to rapid reproduction, an infestation will survive and linger if not controlled swiftly.



Whiteflies on the underside of a kale leaf.  
Photo: M. Albright, NJAES



A heavily infested kale leaf. When disturbed sends swarms to another plant. It really looks like snow! Photo: M. Albright, NJAES



Cabbage whiteflies showing their distinguishing grey spots. The small white ovals are other stages of the whitefly lifecycle.  
Photo: P. Nitszche, NJAES

**Management:**

- Inspect top and bottom leaves of overwintered *Brassica* plants and remove plants early in the season when the weather is cool, since whiteflies are inactive then. They are difficult to remove after the weather warms up, as once disturbed they disperse quickly. Preventing new populations from migrating to neighboring plots is key to inhibit breeding.
- Organic control for nymphs is horticultural oils, neem, and insecticidal soap. Read label and apply accordingly.

**References:**

- Rutgers University <https://njaes.rutgers.edu/pubs/publication.php?pid=FS240>
- University of Maryland <https://extension.umd.edu/resource/whiteflies-vegetables>

**Imported Cabbage Worm Adults**  
*Pieris rapae*
**Morris Township Community Garden 3/29/25**

**Description:** Imported Cabbage Worm butterflies lay their eggs on brassicas such as cabbage, broccoli, and cauliflower. The green color and small size of the larvae makes it difficult to detect them on the leaves of your plants but you will know they are there if you begin to see holes in the leaves.

The butterfly lays single white eggs on the underside of leaves. Eggs hatch 3 to 5 days later and the green caterpillars begin feeding on the leaves. After 2 to 3 weeks of feeding, the caterpillars pupate and form a chrysalis on or near the affected plant. This matures in about 2 weeks and the cycle begins again. In our location, it is possible to have 2 to 3 overlapping generations in a season.

If you see this...



Adult cabbageworm butterfly is white with black markings on wings.

Photo: Rutgers University Fact Sheet

The larvae won't be far behind



Larvae on cabbage. Photo: P. Nitzsche, NJAES



Damage on cabbage plants



Damaged cabbage. Row covers would help prevent egg laying. Photo: P. Nitzsche, NJAES

**Management:**

- Handpick eggs and caterpillars and dispose of them by crushing or dumping in a jar of soapy water. The caterpillars are well camouflaged so your first inkling of a problem may be damage to leaves. Planting red cabbage varieties makes it easier to see the caterpillars.
- Row covers placed immediately after planting seedlings will keep the butterflies from laying eggs.
- Apply *Bacillus thuringiensis var. kurstaki* when caterpillars are small and actively feeding. The *BT* must be ingested to be effective.
- In the case of plants that form heads, harvest affected plants early to minimize tunneling by larger caterpillars into the head.

**References:**

- Rutgers University <https://njaes.rutgers.edu/pubs/publication.php?pid=FS286>



## ADDITIONAL PESTS LIKELY TO BE SEEN IN APRIL

### White Grubs (*varied species*)

**Description:** White grubs are the larvae of scarab beetles. These root feeders consume many vegetable plants, including corn, bean, beet, potato, spinach, turnip, and other root crops. A variety of species found include May or June beetles, European Chafer beetles, the Asiatic garden beetle, the green June beetle, the Japanese beetle, and the Oriental beetle.



White Grubs

Photo: Rutgers University Fact Sheet

#### Management:

- As soil is prepared for planting, hand collect and destroy the grubs. This will help prevent them pupating in late spring and early summer.

#### References:

- Rutgers University <https://njaes.rutgers.edu/pubs/publication.php?pid=FS293>
- University of Maine <https://extension.umaine.edu/home-and-garden-ipm/frequent-specimens/frequent-white-grubs/>

### Flea Beetles (*varied species*)

**Description:** Since most flea beetles are very small, new gardeners often wonder what is causing the holes in their plant leaves. They can sometimes be mistaken for specks of soil, but will jump when disturbed.

Flea beetle feeding damage can be found on many different vegetables including tomato, potato, radish, Swiss chard, sweet potatoes, kale, and others. Eggplant is especially favored. An infestation may affect the growth and vigor of young plants throughout summer. Feeding wanes by late summer.

There are many species of flea beetles and most are crop specific. Sizes range between species from 1/20th to 1/8<sup>th</sup> inch long and are black, bronze, bluish, or brown to metallic gray in color. There are two generations per year. Adults will overwinter in plant debris.



Flea beetle feeding holes on radish plants

Photo: M. Albright, NJAES



Flea beetles and their characteristic feeding holes on an eggplant leaf.

Photo: P. Nitzsche, NJAES

#### Management:

- Crop rotation.
- Row covers can help protect young plants.

- Plants grown from small seeds are less tolerant to flea beetle damage than transplants, thus planting large-seeded crops or transplants can help.
- Early season plantings usually have more severe flea beetle infestations. Delayed and successive planting can help mitigate flea beetle damage.
- Organic controls include insecticidal soap, neem, or *Beauveria bassiana*, a biocontrol fungus that works as a parasite. Read labels carefully and completely before applying. *B. bassiana* can be harmful if inhaled, swallowed, or absorbed through skin. Do not apply when pollinators are foraging. Potentially harmful to bees, pollinators, and fish.

#### References:

- Rutgers University <https://njaes.rutgers.edu/pubs/publication.php?pid=FS233>
- UMass, Amherst <https://ag.umass.edu/vegetable/fact-sheets/flea-beetle-brassica>

### Common Asparagus Beetle, *Crioceris asparagi*

**Description:** The Common Asparagus Beetle, *Crioceris asparagi*, is 1/4 inch long, slender, blue-black in color with three, yellowish-white squares on each wing cover. Asparagus beetle adults feed on young shoots during the harvest season, chew holes in the shoots, and lay small, dark brown eggs standing on end on the spears. The hatched larvae feed on the foliage. There is also a Spotted Asparagus Beetle but they are usually active later in the season (mid-May).



Common asparagus beetle adult  
(1/4 inch long) Photo: J. Basile, NJAES



Asparagus beetle eggs  
Photo: Univ. of Maryland



Close up of asparagus beetle eggs. The eggs will hatch in a week and feed for two.  
Photo: J. Basile, NJAES

#### Management:

- Hand pick any existing beetles, larvae and eggs and destroy.
- Asparagus in the affected area should be harvested daily.
- The best time to check for asparagus beetles is in the afternoon when they are most active.
- Organic controls include neem, pyrethrin, and Spinosad. Be sure to read the label, make sure asparagus beetles are included, and follow the directions completely and carefully.

#### References:

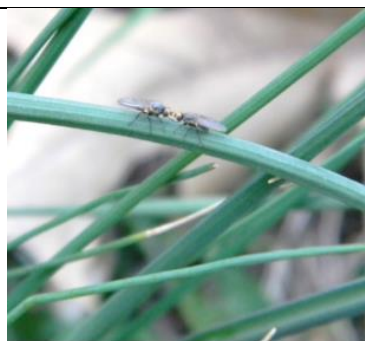
- Rutgers University <https://njaes.rutgers.edu/FS221/>
- University of Minnesota <https://extension.umn.edu/yard-and-garden-insects/asparagus-beetles>

### Allium Leaf Miner adults (*Phytomyza gymnostoma*)

**Description:** Allium Leaf Miner (ALM) adults are small flies that are active in Morris County from late March/early April to late May/early June. 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.



Feeding marks  
from ALM adults  
Photo: M. Sample, NJAES



ALM Adults  
Photo: Pennsylvania Department of  
Agriculture



ALM Pupae  
Photo: Pennsylvania  
Department of  
Agriculture



Plants damaged by ALM  
larvae  
Photo: Pennsylvania Department of  
Agriculture

**Management:**

- Row covers are effective at preventing egg laying during periods of adult activity. 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 protect beneficial insects and pollinators.
- Removal of all host debris prior to the end of the season can help prevent overwintering.

**References:**

- Cornell University <https://cals.cornell.edu/new-york-state-integrated-pest-management/outreach-education/fact-sheets/allium-leafminer>



## BENEFICIAL SPOTLIGHT

### *Syrphid* Flies aka Hover Fly, Flower Fly

#### *Diptera: Syrphidae*

**Description:** This native beneficial is excellent aphid control, so be on the lookout for their arrival this spring. Although the coloring and markings are similar to a bee, *Syrphids* are flies. Their distinguishing features are one pair of wings, a hairless body, extended hover ability, gentle nature, and best part is no stinger. There are over 6,200 species worldwide. They undergo complete metamorphosis with egg, larvae, pupa, and adult.

Adults overwinter and emerge in the spring to mate. There are five to seven generations per year. Female egg laying occurs with aphid arrival. Individual eggs that appear like a grain of rice are laid on the underside of leaves. The carnivorous larvae hatch in three days and begin feeding voraciously on aphids, consuming up to 400 during this stage. The larvae develop over three weeks, range in size up to ¼" with a tapered body and various colors of brown, green, and white. Aphids are pierced and the larvae can be seen tilting their prey upward to help drain their prey's fluid. Additional prey are leafhoppers, thrips, scales, and mealybugs, so you really want this outstanding fly around.

Encourage the nectarivorous adults to inhabit and pollinate your plot by providing them nectar and pollen. Good choices to include are *Apiaceae* family- coriander, dill, lovage, parsley, *Asteraceae* family- aster, coneflower, daisy, marigold, and *Lamiaceae* family- basil, bee balm, catnip, lavender, lemon balm, mint, oregano, and sage. Other habitat includes fields, meadows, and forest. Remember that in IPM we encourage least toxic route, so please curb indiscriminate spraying of insecticides to control a small outbreak of aphids. *Syrphids* are highly susceptible to insecticides.



Larvae with various color markings.

Photos: J. Basile, NJAES



A real aphid eater! Note the larvae lifting the aphid. It will consume small and adult sized aphids.



Adult hoverfly resting on leaf.



Adult hoverfly gathering nectar and pollen. Plant plenty of flowers to bring them into your garden.

#### References:

- Rutgers University [Common Backyard Beneficials — Plant & Pest Advisory](https://njaes.rutgers.edu/master-gardeners/)
- North Carolina State University <https://entomology.ces.ncsu.edu/biological-control-information-center/beneficial-predators/hover-fly/>

#### 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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