

WHAT'S IN THIS REPORT		
TIPS	NEW PROBLEMS SEEN	SPOTLIGHT
<ul style="list-style-type: none"> • Perennial greens • Top 5 Overwintering Diseases • Evaluating plot performance 	<ul style="list-style-type: none"> • Zucchini mold • Summer whiteflies • Currant Anthracnose 	<ul style="list-style-type: none"> • North American Wheel bug

GARDENS SCOUTED FOR THIS REPORT: *Madison Community Garden, ValleVue Preserve Community Garden in Morris Township and Morris County Commission Community Garden*

GENERAL OBSERVATIONS AND TIPS

Our garden scouting has come to an end for the season. We enjoyed seeing the plots filled with new varieties, meeting with you, and scouting the usual cast of pests and diseases, plus finding a few new ones. For those continuing to garden with cool season greens, keep it growing. Please read the tips below that may be of interest for your plot next year. Thank you for reading the reports and integrating IPM into your gardens. We look forward to seeing you again next year. Spring begins Tuesday, March 19, 2024!

PERENNIAL VEGETABLES

Many plots have incorporated perennial vegetables and herbs such as asparagus, chives, oregano, rhubarb, and sorrel, but gardeners can always find a little space to tuck something else in. Early greens are always a welcome sight, so consider adding these to your plot. Just take into account your space and needs. These can be grown from seed or purchased and transplanted. At any rate, they can help bridge the gaps between plantings and may become favorites.

- Good King Henry, *Chenopodium bonus-henricus*- A Spinach like alternative grown in part shade to full sun.
- Lovage, *Levisticum officinale*- A celery alternative for leaves and stem. Grows up to 6 feet. Use fresh or dried.
- Mitsuba, *Cryptotaenia japonica*- A Japanese parsley to add to salads.
- Sea Kale, *Crambe maritima*- Brassica family member, can be used as edible or ornamental.
- Wild Arugula, *Diplotaxis tenuifolia*- A spicy arugula, prolific with cut and come again. Re-seeds easily.

TOP OVERWINTERING DISEASES

This list includes the top fungal diseases we found this year while scouting the gardens. Remove old plant debris, practice crop rotation, limit overhead watering, include resistant varieties, try successive planting, and use mulch to help mitigate these issues.

- *Anthracnose* fruit rot, Early Blight and *Septoria* leaf spot of tomatoes, potatoes, and peppers.
- *Cercospora* leaf spot affects carrots, beets, spinach, chard, cucumbers, peanuts, squash, melons, and pumpkins.
- Powdery mildew affects cucurbits such as cucumber, summer squash, zucchini, melons, and pumpkins.
- Rhubarb leaf spot, *Ramularia rhei*, damages foliage but can also impact rootstock.
- White rot, *Sclerotium cepivorum*, destructive and long-lived disease of alliums



Be sure to clear up all the old fruits, stems, leaves, basically any decayed plant debris in your plot. This way you will save time in the spring and can devote energy to preparing to plant over tidying up.

These rotting tomatoes and vines provide the perfect environment for unwanted re-seeding and for pest and disease habitat to buildup.

J. Basile, NJAES

PLOT EVALUATION


Garden planning never ends, as we learn from one another and look for ways to improve. Take time to review your plot while the memory is still fresh. This evaluation can be documented in a garden journal. If you haven't started one already, then now is the time to write things down. These can be as elaborately detailed as you wish. They are a practical and useful reference to remind you of what worked or didn't, and you may come to enjoy revisiting tales of your labors years down the road. Some points to include and assess in your notes are as follows.

- **SEEDS**- What varieties thrived or failed. When searching seed catalogs, look for disease resistance, yields, date to maturity, flavor notes, and uses. Basically, do you like the plant and how will it work for you? Many garden planners can be found to plan planting for one person or more. For example, these averages are for a 10 ft. row: Cucumbers 8-10 lbs., Peas 3 lbs., Pole beans 7 lbs., Peppers 12 lbs., Tomatoes 50 lbs.
- **INPUTS**- What amount of time, energy and funding are you putting into your plot? Think of seed starting, lighting, potting mix, amendments, compost, mulch, transplanting, etc.
- **CROP ROTATION**- Note what the history is of your plant spacing.
- **WEATHER CONDITIONS**- Follow and log weather events that are significant observations to your growing success.
- **TIME**- When is the last or first frost date for your area? Time your seeding or transplanting accordingly. Decide how much time you can seriously devote to planting, management, watering, weeding, harvesting and cleanup of your plot. Will you cut back due to work, health, travel, or other obligations.
- **PESTS AND DISEASES**- Document what issues were found in your plot and how did you address them. Think about what steps to take next year, such as adding row covers, trellises, scouting consistently, mulching or anything that you feel may be beneficial.

References- Please check for additional details and enjoy your garden journaling!

1. Rutgers University, Tomato Diseases <https://njaes.rutgers.edu/fs547/>
2. Rutgers University, Planning a Vegetable Garden <https://njaes.rutgers.edu/fs129/>
3. Rutgers University, Keeping Pests Out of the Garden, <https://njaes.rutgers.edu/community-garden/ipm.php>
4. USDA, Planting in a Community Garden <https://www.nrcs.usda.gov/plantmaterials/mipmcot9407.pdf>
5. North Carolina State University, Garden Journaling <https://content.ces.ncsu.edu/extension-gardener-handbook/appendix-a-garden-journaling>

REPORTS ON NEW PROBLEMS

Zucchini Mold (<i>Choanephora cucurbitarum</i>)	Morris Township Community Garden 9/16/23
<p>Description: Zucchini fruits were found covered with a dark fuzzy mold that caused them to be soft, watery, and difficult to handle. <i>Choanephora</i> rot is an overwintering fungus that appears following hot weather on the blossom end of fruit and extends to cover the fruit with a mass of spores. Cucumbers, melons, and okra can also be affected. This disease can be short-lived and subsequent fruit sets are usually unaffected, unless favorable conditions reoccur.</p>	
	<p>Characteristic fuzzy mold completely covered this zucchini from blossom end to the stem. Remove and trash before they disintegrate into mush. Avoid overhead watering as best you can to prevent the spread. Since this fungus can overwinter, it is important to remove all diseased plant material at the end of the season. N. Gardner, NJAES</p>
<p>Management</p> <ul style="list-style-type: none"> • Cucurbits require legroom and breathing space to allow for their leaves to ramble. Create good growing conditions that favor healthy plant growth by providing full sun, air circulation and proper spacing. • Avoid overhead watering. Fungus thrives in wet, humid conditions. • This fungus can be spread by splashing water, so mulch your plot with grass clippings, salt hay or shredded leaves. • Promptly remove infected fruits, as these will never recover and will become difficult to pick up. • Practice good garden hygiene and remove old plant debris at end of season. 	

References

1. Rutgers University <https://njaes.rutgers.edu/E310/>
2. University of Maryland <https://extension.umd.edu/resource/choanephora-rot-vegetables>

Summer Whiteflies on kale and brussels sprouts (*Aleyrodes proletella*)

Denville home garden 9/16/23

Morris County Community Garden 9/11/23

Madison Community Garden 9/11/23

Morris Township Community Garden 9/4/23

Description: Cabbage whiteflies were previously found in spring and noted in Report 1. They continue to be found on *Brassica* plants throughout the gardens scouted. This pest is now overwintering in NJ and we suggest that if any of your plants are still harboring whitefly in the late fall, then prompt removal from the garden will help prevent a colony from establishing over the winter. Their unmistakable fluttering like snowfall upon moving among disturbed plant leaves is a sign to act. The grey spots on the wings signify that they are cabbage whiteflies (*Aleyrodes proletella*).

Cabbage whiteflies eliminate honeydew (excrement), which in turn creates an environment for sooty mold fungus to develop. Plant leaves can become covered with the grey, grimy coating, which can make photosynthesis difficult and contribute to stunted growth, loss of plant vigor, curled leaves, and premature death. Other sap sucking insects such as aphids and leafhoppers also excrete honeydew.



Sooty mold and several whiteflies are found on the back of this brussels sprout leaf. M.Sample, NJAES



Cabbage whitefly adults and nymphs found on underside of a kale leaf.

Note the grey spots on the back wings indicating these are cabbage whiteflies (*Aleyrodes proletella*). P. Nitzsche, NJAES

Management

- Continue scouting your *Brassica* plants late in the gardening season. If infestations of whiteflies are found, remove and trash the plants. If these whiteflies are left to overwinter in the garden, they will continue to plague new plantings in the spring, developing into a challenging cycle for you and your surrounding neighbors' plots.
- Populations of whiteflies can flourish rapidly with multi-generations per year. Reduce populations by spraying with a hose, placing yellow sticky traps above the infested plants, or using insecticidal soap or neem oil.
- Encourage natural predators, such as green lacewings and ladybeetles, to help control future populations.

References

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

Description:

Currant Anthracnose was found on a plant that presented with numerous leaves displaying a combination of brown lesions both along the leaf margin and some lesions within the center. Yellowed older leaves were also found to be shriveling and dropping. This fungus affects both currants and gooseberries. It overwinters in plant debris and becomes active in spring when growing conditions are ideal. The spores are then released and will then attach to host plants, beginning the disease cycle anew. Spores are spread through wind and water splash.



Remove and discard fallen, diseased leaves and rake out to collect any fallen twigs to help stop the spread of this fungus in your plot and overall garden. Good cultural practice of pruning in late winter helps open up the shrub canopy to air and sun.
J. Basile, NJAES



Older leaves are seen yellowed and shriveling. If left unchecked, these plants may eventually weaken over time due to early leaf drop and consistent disease pressure.
J. Basile, NJAES

Management

- This fungus will overwinter in diseased plant debris, practice good garden hygiene and remove any debris in plot.
- Avoid overhead watering, fungi thrive in wet, humid conditions.
- Mulch with grass clippings, salt hay or landscape fabric to help prevent water splash.
- Provide good air circulation with proper spacing between plants and prune to maintain shape and vigor.
- Always disinfect pruning tools between cuts by dipping or spraying in a solution of 70% alcohol. Allow to air dry.

References

1. Cornell University <http://www.hort.cornell.edu/fruit/mfruit/gooseberries.html>
2. University of Massachusetts <https://ag.umass.edu/fruit/ne-small-fruit-management-guide/currants-gooseberries/pest-management/diseases>

Also Happening Now



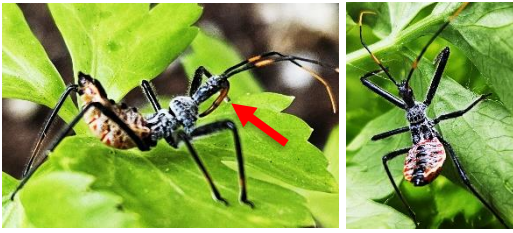
Brown Marmorated Stinkbugs are out searching for spaces to overwinter such as homes, buildings, dead trees, and logs. Hand pick these adults and crush or deposit in a jar of soapy water. Also, clear away any likely overwintering sites in or near your garden.
J. Basile, NJAES



Imported Cabbage worm and Cross-striped cabbage worm were previously reported in Report 1, but adults continue flying. This generation, hopefully their last, have hatched and are still found dining on your *Brassica* plants. Continue to scout for adults, eggs, and larvae into next month. Any pupae will overwinter and emerge as adults in spring. Handpicking now will help prevent next year's gang in your garden. If you plan to use row cover to extend your growing season, be sure to check under it often to prevent damage from any caterpillars that may be hidden beneath. J. Basile, NJAES

BENEFICIAL SPOTLIGHT

North American wheel bug (*Arilus cristatus*)



North American wheel bug nymph sitting on a leaf.
Note the 'beak-like' proboscis. J. Basile, NJAES

This member of the Assassin Bug family is a top predator of garden foes such as aphids, Colorado Potato Beetle, Japanese Beetles, and are known to prey on Brown Marmorated Stinkbugs. Their piercing and sucking mouthpart, the *proboscis*, punctures their prey, which then liquefies, and they draw up the fluid. As natives to North America, they can be found in your garden, trees, and landscape. They undergo incomplete metamorphosis, with 5 instars as nymphs. Nymphs are red/orange black, but will mature to grey and develop a 'wheel-like' structure on the back. Adults can be found flying amongst plants or up in trees, helping to patrol for pests. There is one generation per year. **WARNING- Do not handle! They are known to inflict a painful bite!**

1. Rutgers University <https://entomology.rutgers.edu/insects.html>
2. University of Florida https://entnemdept.ufl.edu/creatures/trees/wheel_bug.htm

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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