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New Jersey Agricultural Experiment Station

Rutgers Master Gardener IPM Team Report
Report # 12, Week of September 27, 2021

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GENERAL OBSERVATIONS

Autumn has arrived bringing cooler temps, shorter days, and the end for some of our favorite summer crops. The last generation of Imported and Cross striped Cabbageworm caterpillars are still feeding, so continue scouting your Brassica plants for any damage. Any remaining squash or cucumber plants loaded with Powdery mildew or withering from damaged vines should be removed. Be sure to destroy any Squash Vine Borer larvae that may still be residing inside. Remove spent tomato vines and any other plant debris that may harbor pests and disease. Time to plant garlic, shallots, spring bulbs, trees, cover crops, and cold tolerant greens. Average first frost dates vary throughout the state, from North to South, but generally occur mid-October.

With this being our final report for the year, we would like to say thank you to all the home and community gardeners who read and use this information to better utilize and manage their plot. We would also like to share some of our recommendations to extend your growing season, saving seeds, garden clean up, and programming that may be of interest.

REPORTS ON PROBLEMS

Pest: Spotted Lanternfly (*Lycorma delicatula*)	**Where: Throughout New Jersey**
Description: The Spotted Lanternfly has now been found in 14 counties. These invasive plant hopping, sap sucking pests can be found feeding on tree limbs and trunks. Adults are still flying, and mating and egg laying are just around the corner. Egg masses are laid from September to December and appear like a little mud patch on tree trunks and limbs. Please be on lookout for these destructive pests and destroy immediately. Key host is Tree of Heaven, *Ailanthus altissima*, other hosts include Black Walnut and Grape. Vineyards are especially at risk, but it can be found in orchards, gardens, basically everywhere.	

Spotted Lanternfly juvenile on leaf.
Photos: J. Basile, NJAES

Adult showing both red and spotted wings.

Key host Tree of Heaven.

Brown grey egg mass perfectly camouflaged on tree trunk.
Photo: Anne Nielsen, Rutgers University

Management:

- Adults will not survive the winter, but the egg masses will. Should you come across any adults or egg masses, stomp, scrape off tree, and just simply destroy.
- Inspect any firewood, vehicles, outdoor equipment or spaces where egg masses may have been deposited.
- Removal of key host, Tree of Heaven, *Ailanthus altissima.*
- Spring to early summer will bring next generation, so get out and scout early next year.

References:

1. Rutgers University https://njaes.rutgers.edu/spotted-lanternfly/
2. USDA https://www.nj.gov/agriculture/divisions/pi/prog/pests-diseases/spotted-lanternfly/

Pest: Brown Marmorated Stinkbug (*Halyomorpha halys)*	**Where: Throughout New Jersey**

Description: Brown Marmorated Stinkbugs are making a nuisance of themselves, being found throughout the garden and outside homes, as they are searching out a space to prepare for winter hibernation. These invasive pests cause economic hardship to farmers as they damage a variety of crops, particularly late summer ones such as figs, persimmons, peaches, corn, tomatoes, peppers, bean pods and melon vines Adults emerge in spring, mate, lay eggs that hatch through summer and the cycle begins anew. There can be 2 generations per year.

Brown Marmorated Stinkbug in search of space for winter hibernation.
Photo: J. Basile. NJAES

Management:

- Hand pick and destroy. They do not bite or transmit disease, but they emit an odor on crushing.
- Keep weeds in check around house and garden to prevent any shelter.

- Check home for any areas that may be open to allow entry, such as cracks and crevices, loose screens, etc. Be sure to seal exposed areas.
- Encourage predators who consume the eggs, such as Praying Mantis, Lady beetle, Lacewing larvae.

References:

1. Rutgers University https://njaes.rutgers.edu/pubs/publication.php?pid=FS245
2. Rutgers University https://njaes.rutgers.edu/stink-bug/faq.php#general

INSECT SPOTLIGHT

Assassin Bugs (Family *Reduviidae,* Order *Hemiptera)*

Small red Assassin bug nymphs on cucumber.
Photo: M. Sample, NJAES

Description:

Assassin bug nymphs were spotted in a home garden. This little creature is a top predator of a variety of pests, so If you have noticed a lack of Mexican bean beetles or aphids this year, then they may have been at work. These bugs are found throughout the world, with 160 species in North America. As they undergo incomplete metamorphosis, the brightly colored ¼ inch nymphs molt up to five times before emerging as adults. Notable long legs help to catch prey, while their beak pierces and injects a venom to liquefy the prey to extract a meal. Habitat includes the garden and woodlands, but they also enjoy wildflower settings. Adults will overwinter in leaf litter and bark.

Beware, if handled they will bite!

References:

1. University of Maryland https://extension.umd.edu/resource/assassin-bugs
2. Clemson University https://hgic.clemson.edu/factsheet/assassin-bugs/

WEED SPOTLIGHT

White Snakeroot (*Ageratina altissima)*

White Snakeroot flowering. Foliage and rhizomes are toxic to mammals.
Photo: J. Basile, NJAES

Description: This member of the Aster family is now blooming nearly everywhere. Its white flowers can be found blossoming along roadsides, fields, and woodlands. Being highly adaptable to growing in a variety of soils and tolerating sun or part shade, a colony can become widespread. Height can reach upwards of five feet and reproduces from seed or rhizomes. Foliage and rhizomes are TOXIC if eaten by mammals, although the flowers are useful to some pollinators. Toxins are transferable through ingesting tainted cow's milk. This was problematic for early settlers when their animals unknowingly grazed on this plant and passed on the toxin. Abraham Lincoln's mother died from "milk sickness".

Management:

- Hand pulling in the garden setting and removal of seedheads helps prevent seed dispersal.
- Do not allow animals to feed.

References
1. Virginia Cooperative Extension https://weedid.cals.vt.edu/profile/28
2. Colorado State University https://csuvth.colostate.edu/poisonous_plants/Plants/Details/128

We hope you enjoyed your garden this season and reaped a bountiful harvest. As the season closes, please review some of our references for tips and techniques that may be of interest.
Looking forward to seeing you in 2022!

Putting the Garden to Bed

Cleaning up the garden is a great practice to prevent and reduce the circulation of diseases and pests. Reminder: Harvest your sweet potatoes before a frost and cure for at least a week. Ripen surplus tomatoes indoors using the tips that follow. Remove old Brassica debris to prevent overwintering whiteflies.

Top diseases and pests that overwinter in plant debris:

Early Blight, *Septoria* Leaf Spot, Flea beetles, Leafminers, Aphids, Whitefly

References: Rutgers University
1. Rutgers Master Gardeners of Mercer County https://mgofmc.org/falling-into-place-fall-tasks-to-get-your-garden-ready-for-winter/
2. Keeping Geraniums Over Winter Fact Sheet 1156 https://njaes.rutgers.edu/pubs/publication.php?pid=FS1156
3. Spring Flowering Bulbs Fact Sheet 1220 https://njaes.rutgers.edu/fs1220/
4. Growing Garlic In The Home Garden Fact Sheet 1233 https://njaes.rutgers.edu/fs1233
5. Soil Testing Fact Sheet 797 https://njaes.rutgers.edu/fs797/
6. Cover Crops and Green Manure Crops: Benefits, Selection, and Use Fact Sheet 849 https://njaes.rutgers.edu/pubs/publication.php?pid=FS849

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Ripening tomatoes indoors

To speed the ripening of tomato fruit on the vine, slightly reduce watering. With the forecast of a light frost, protect fruit by covering. If heavy frost is forecast or where covering is not practical, harvest fruit before the frost event and carry indoors.

Pick ripening fruit and green tomatoes with a glossy green appearance that have reached at least three-fourths of their full size. Remove stems. Wash fruit under a stream of water and allow to air dry on a clean towel. Save only blemish-free fruits for ripening indoors.

Fruit does not need light to ripen. Some gardeners simply hang the whole plant upside down in a dark, cool garage or basement to let the fruit ripen gradually.

Other options include placing tomatoes one or two layers deep in a covered box for ripening. Some people find better success by individually wrapping fruit in newspaper or wax paper and placing them in a covered box. Placing a few fruit together in a plastic bag has been effective for others.

Ethylene gas produced by ripening tomatoes is a ripening hormone. To speed the ripening process, place a ripe tomato or banana in the container with the fruit. To slow the ripening of green tomatoes, routinely remove ripening fruit from the container.

Green fruit will ripen in about two weeks at 65 to 70 degrees F, and in about 3-4 weeks at 55 degrees F. Storage below 50 degrees F will give fruit a bland, off flavor.

(Adapted from a Cooperative Extension of Colorado State University information sheet)

Seed Saving

Time to get out and collect any seedheads to store for next year. Not only are you growing plants that are well adapted to your zone, you will save money on your favorite heirlooms. When stored properly, in a dry and cool location, some seeds such as beets, lettuce, tomato, chard, radish, endive, kale and pumpkin can store for 4+ years. Just be sure to know that the variety you are saving is open pollinated and not a hybrid F1. Saved hybrid seeds will not generate offspring like the original. Also save seeds from your favorite ornamentals and herbs such as zinnias, coneflowers, cosmos, marigolds, dill, chamomile and calendula.

Seed saving was held at the Morris County Extension Office. Here is Brian Monaghan processing tomato seeds. Photo: D. Los, NJAES

References:

1. University of Maine: An Introduction to Seed Saving for the Home Gardener https://extension.umaine.edu/publications/2750e/
2. NC State University: Save Seeds Not Diseases https://wilkes.ces.ncsu.edu/2020/08/save-seeds-not-diseases/
3. University of Minnesota: Saving Vegetable Seeds *https://extension.umn.edu/planting-and-growing-guides/saving-vegetable-seeds*

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Saving Heirloom Tomato Seeds

When you find an heirloom or open-pollinated tomato cultivar (variety) that you really love, you may decide that you want to grow it in your garden next year. Some "family heirlooms" are not commercially available every year and often companies discontinue selling certain cultivars. In these cases saving the seed is the only alternative.

Properly saved tomato seed, stored under the right conditions, can retain up to a 50% viability rate for 5 - 7 years and can be easy to do if you follow a few simple steps.

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1. Select several of the best ripe tomato fruits from the healthiest looking plants. Ideally, you will be choosing the fruit from the middle plants of a group of at least ½ dozen plants of the same variety that have been growing at least 6 – 10 feet from any other tomato varieties. In this way, although tomatoes are generally self-pollinating, you will have decreased the possibility that there may have been some chance of cross-pollination.

2. Cut the ripe fruit in half and squeeze the gel and seeds into a small clean bowl, until the container is no more than half full. Old cottage cheese or deli-containers are a perfect size, they are free, and they stack for storage. If you are saving the seeds of more than one cultivar (variety) remember to label each container with the name in indelible ink

3. Place the bowl(s) on a shelf or counter; making sure that it is not in direct sunlight. In order to control fruit flies (drosophilla) you may want to cover the bowl(s) with paper towels or screening. Make sure to look at the contents of the bowl(s) every day.

4. After several days a white fungal layer will form on the surface of the gel / seed mixture. This is evidence that fermentation is taking place. <u>DO NOT STIR</u>

5. Allow the fermentation process to continue for ~3 days.

6. Carefully pour off the white fungal layer. Then slowly add lukewarm water to the container. All the non-viable seeds will float – continue to add water to the container until the non-viable seeds have floated away over the rim and down the drain – the seeds left at the bottom of the bowl are the viable seeds.

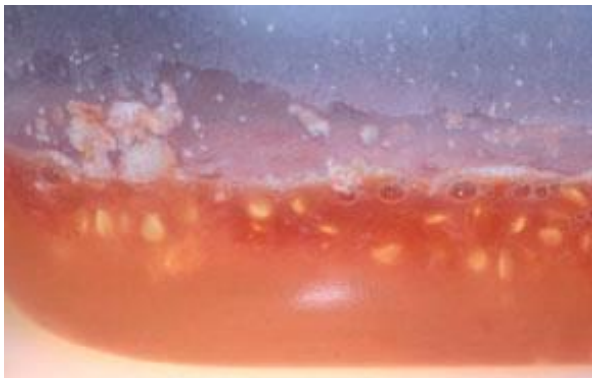
7. Continue rinsing until the water in the container is clear and all floating seeds are gone.

8. Empty the remaining seeds onto paper towels marked with the name of the cultivar (variety) in indelible ink. Gently spread the seeds out so they are not on top of one another – this will facilitate complete drying.

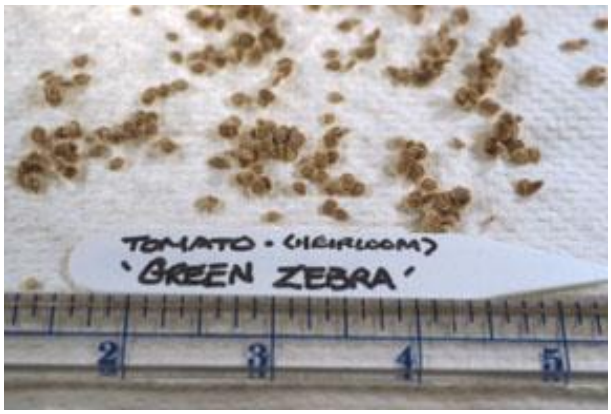
9. Dry the seeds out in a well-ventilated area out of direct sunlight for 7 – 10 days.

10. Seeds should be kept in cool dry conditions. Old pill boxes or 35 mm film containers make ideal seed receptacles. Remember to mark each container with the name of the cultivar, and the year of harvest.

Seed/gel mixture in container. White fungal layer indicates fermentation has begun.



Close-up of fermentation process.



Seeds arranged on a paper towel to dry

Edited by Peter Nitzsche, County Agricultural Agent,
Rutgers Cooperative Extension of Morris County

8/10/07

Season Extension

Sometimes we just don't want the growing season to end. Growing cold resistant greens under cover with small hoops may be of interest, give it a try, you'll be glad you did. Top cold resistant greens are kale, collards, arugula, spinach and Asian greens. Many greens and herbs can be grown in containers for the winter.

References:

1. University of Connecticut Extending the Season in The Garden http://www.ladybug.uconn.edu/FactSheets/gardens--extending-the-season.php
2. University of Maine Extending the Gardening Season https://extension.umaine.edu/publications/2752e/

REGISTER FOR UPCOMING FREE PROGRAMS, VIEW A MISSED SESSION, OR DOWNLOAD RECIPES.

Rutgers NJAES Channel on YouTube https://www.youtube.com/user/RutgersNJAES

Rutgers Environmental Stewards https://envirostewards.rutgers.edu/Earth-Day.html#Fall2021sessions

Rutgers Homesteading Academy https://njaes.rutgers.edu/homesteading-academy/

USDA's Complete Guide to Home Canning https://nifa.usda.gov/blog/usdas-complete-guide-home-canning

Rutgers Protecting Bees https://protectingbees.njaes.rutgers.edu/resources/additional-websites/

Gardening Activities for Youth https://njaes.rutgers.edu/fs003/

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/

PEST MONITORING APPROACH FOR 2020/21

During 2018 and 2019, teams of Rutgers Master Gardeners conducted regular inspections of two community gardens: the Morris County and Madison Community Gardens.
Due to Covid-19 restrictions during 2020/21, the team is reporting on problems observed in their own vegetable garden plots rather than inspecting all the plots in the community gardens. The team's 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, and Morris Township.

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