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RUTGERS

New Jersey Agricultural
Experiment Station
COOPERATIVE EXTENSION
CUMBERLAND COUNTY

What's Growing On?

VOLUME 25 ISSUE 2 SPRING 2022 EDITION

GARDEN GAB

Over the winter months I took some time to update our website so that you can easily find information on a variety of topics. When you visit our web-page there is a button titled "Resources for Homeowners" and upon clicking on that you will be presented with several topics, like: native plants, plant problems, and vegetable gardens. Each topic includes a wealth of information, directing you to reliable and science-based resources. This new web page is meant to be a one-stop-shop for answers to your lawn and garden questions. It is also a great place to find resources on topics like alternative lawns and rain gardens.

Our office is now open to the public so you can also stop in during the week between 8:30 and 4:30 for soil testing, insect and disease identification, or advice.

Plant Problems

Many factors can contribute to an unhealthy or dying plant. Before exploring potential diseases, it is important to consider what else might be going on. Our plant diagnostic checklist below will help you consider how abiotic factors like irrigation, location, and maturity may also be affecting your plant. To better understand the difference between abiotic (non-living) and biotic (living) factors, visit this [page](#).

[Plant Diagnostic Checklist](#) [Download](#)

Flowers & Houseplants

- [Abiotic Flower Problems](#)
- [Bulbs](#)
- [Chrysanthemums](#)
- [Dahlias](#)
- [Flower Diseases](#)
- [Indoor Plant Problems](#)
- [Marigolds](#)
- [Sunflowers](#)
- [Viruses of Indoor Plants](#)
- [Viruses of Flowers](#)

Fruits & Vegetables

- [Abiotic Fruit Problems](#)
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- [Fruit Disease](#)
- [Managing and Preventing Garden Diseases](#)
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- [Tomato Diseases](#)
- [Understanding Signs and Symptoms](#)
- [Vegetable Diseases](#)

Trees & Shrubs

- [Abiotic Shrub Problems](#)
- [Beech Diseases](#)
- [Cultural Problems](#)
- [Maple Diseases](#)
- [Oak Diseases](#)
- [Over-Mulching](#)
- [Pine Diseases](#)
- [Rose Diseases](#)
- [Salt Spray on Evergreens](#)
- [Saltwater Flooding](#)
- [Winter Damage](#)

For an illustrated glossary of plant problems click [here](#).

SPOTTED LANTERNFLY

As the weather warms up May-June, the first of the Spotted Lanternfly nymphs will begin to emerge. At first they will be very small, 1/4" long, wingless, and black and white. The second and third instars will look similar, but slightly bigger. By July the fourth instar will emerge, 3/4" long with red and black spots. The 1" long adults will emerge late summer.

If you see any stage of these invasive insects, you should attempt to kill them. The nymphs feed on a variety of plants, including fruit trees, grapes, and hardwood trees- making them a huge threat to the agricultural and plant nursery industry in Southern New Jersey. For homeowners with susceptible plants on their property, homemade traps can be made.

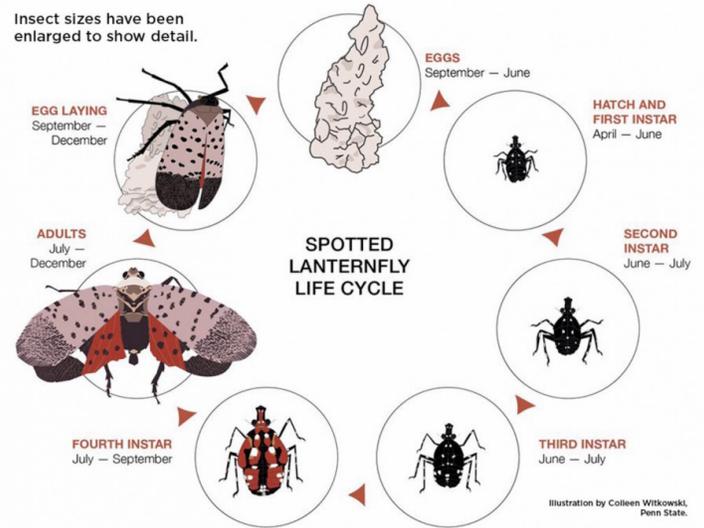
Sticky bands can be wrapped around the trunk of trees to capture nymphs, but this method can also unfortunately capture birds. If you use sticky bands, build a raised guard with wire around the band.

Circle traps utilize plastic bags or clean containers and mesh to catch the nymphs as they climb up the trunk of trees.

Pesticides may also be used to control Spotted Lanternfly, but there are many things to consider before taking that route. Some questions you should ask yourself to assess the need for pesticides are:

- How many SLF are present?*
- Are they on a host plant or near host plants?*
- What life stage is present?*

Contact insecticides can be applied May-October. Systemic insecticides can be applied May-July. To determine which product to use for control, contact your local Rutgers Cooperative Extension. Remember to always read and follow the product label to use pesticides correctly.



A sticky band on a tree. Photo from Penn State University. <https://extension.psu.edu/how-to-create-a-wildlife-barrier-for-a-spotted-lanternfly-sticky-band->



A circle trap on a tree. Photo from Ohio State University. <https://bygl.osu.edu/node/1695>

ATTRACTING BENEFICIAL INSECTS

Beneficial insects can often help us gardeners out by controlling insect pest populations and pollinating plants. By encouraging beneficial insects to your garden, you can reduce infestations of “bad bugs” like aphids and reduce the need for pesticides for insect control. Some common beneficial insects include spiders, wheel bugs, bees, and parasitic wasps. Many beneficial insects are available for purchase online, but in the home garden it is best to encourage and protect existing beneficial populations.

To boost the populations of beneficial insects in your garden, you need to create an environment that supports these insects.

High plant diversity- A combination of flowering plants, trees, shrubs, grasses, and ground covers provide shelter and a variety of food sources for these insects. Select plants that bloom at different times to provide food to beneficials all season long.

Minimal pesticide usage- Utilize pesticides with a low toxicity to bees, minimal residual activity, or that are intended specifically for your pest- not a broad-spectrum product. Avoid spraying while plants are in bloom as the pesticide may enter the pollen or come in contact with pollinators on the plant.

Water- Like all living things, beneficial insects need water. Shallow containers like saucers can be filled with pebbles and water to provide a safe place for them to get water. Containers too deep can result in beneficials drowning.

Reduced tillage/soil disturbance- Many beneficial insects overwinter or dwell in the soil. Having leaf litter or mulch at the soil surface can help protect these insects.

Some important plants for beneficial insects include:

- Queen Anne’s Lace (*Daucus carota*)
- Dill (*Anethum graveolens*)
- Fennel (*Foeniculum vulgare*)
- Coneflower (*Echinacea spp.*)
- New England Aster (*Aster novae-angliae*)
- Goldenrod (*Solidago spp.*)
- Yarrow (*Achillea spp.*)
- Bee Balm (*Monarda fistulosa*)
- Milkweed (*Asclepias syriaca*)
- Coreopsis (*Coreopsis nuceensis*)
- Hairy Vetch (*Vicia villosa*)
- Wild Mustard (*Brassica kaber*)
- Sweet Alyssum (*Lobularia maritima*)
- Eastern Redbud (*Cercis canadensis*)



A parasitized tobacco hornworm (*Manduca sexta*).

MINIMIZING GARDEN DISEASES

Preventing disease in the garden often comes down to having good cultural management practices.

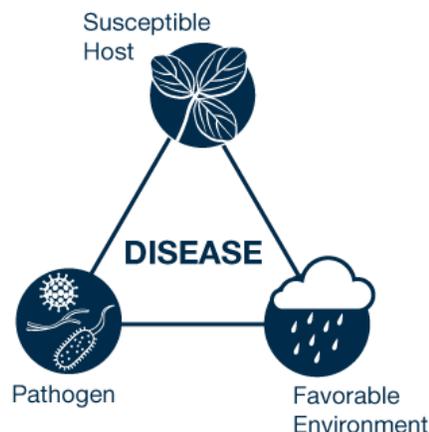
Providing your plants with the right environment can set you off on the right foot. Healthy plants can manage pest and disease better than stressed plants. Do this by:

1. Providing well-drained soil that has been properly amended to support the given plants
2. Rotating crops within the same family
3. Adequately spacing plants to allow for airflow
4. Providing consistent water
5. Irrigating at the base of the plant, ideally using drip irrigation, to avoid wetting foliage
6. Mulching around plants to prevent pathogens from splashing up from the soil
7. Selecting a site that provides full sun, or that meets your plants light requirement

Some other general tips for preventing disease include:

1. Purchase disease resistant or tolerant varieties. Locally adapted/bred seeds can often handle our humid climate better than those grown in other parts of the county. Sanitize any saved seeds.
2. Remove fallen fruit or dropped leaves from the garden
3. Sanitize pots, pruners, stakes, trellises, etc.
4. Avoid harvesting from wet plants as you can easily spread pathogens to other plants

Regularly scouting your plants for insects and diseases can help you catch a problem before it becomes too difficult to treat. Lastly, remember disease can only occur with the following three factors: pathogen, susceptible host, favorable environment. If you can limit just one of these factors, you can help weaken the disease triangle.



A depiction of the disease triangle. <https://www.dekalbasgrowdeltapine.com/en-us/agronomy/managing-soybean-disease.html>

RHODODENDRON ISSUES

During the first few weeks of spring, our Lawn and Garden Helpline received numerous calls, emails, and samples of unhealthy rhododendron. Rhododendrons are very popular landscape plants in the area and rightfully so with their showy purple, pink, or white flowers. However, these plants have specific site requirements that if unmet, will result in poor plant health. They need acidic (pH between 4.5-5.5) and well drained soils in partial shade with an inch of water weekly for the first two years. Of course preventing plant problems isn't that easy but it is a great way to reduce plant stress, which therefore reduces risk of pests and diseases. Let's look at some common rhododendron issues:

Leaf Spots: Many fungal pathogens can cause spotting on rhododendrons, but *Cercospora* is one of the most common. In most cases they do not cause serious harm to the plant and are purely cosmetic.

Winter Injury: Split bark, reduced flowering, and brown leaf tips are common symptoms of low temperature damage.

Iron Deficiency: When the pH of the soil is too high, it limits the plants ability to uptake iron and results in chlorotic (yellow) leaves. Magnesium deficiency can also result in chlorosis but leaves will soon form red blotches. It's important to test your soil every 3-4 years and make amendments based on your soil test results. Over-fertilization can also cause chlorotic leaves.

Botryosphaeria Canker: Scattered dying branches on an otherwise healthy looking plant are a key symptom of this common disease. Leaves will droop, roll inward, and turn brown.

Phytophthora Dieback: Individual leaves on scattered branches will droop, roll, and turn brown. More prominent in wet soils. Dieback and reduced vigor can also be symptoms.

Bark Scale: White egg sacs can be found where twigs intersect with branches and are most obvious from May-June. Treatment is only necessary when high populations exist, causing yellowing leaves.

Contact the Rutgers Cooperative Extension for treatment options or help diagnosing your rhododendron.



Leaf spot on rhododendron. Photo from The Connecticut Agricultural Experiment Station. https://portal.ct.gov/-/media/CAES/DOCUMENTS/Publications/Fact_Sheets/Plant_Pathology_and_Ecology/COMMONPROBLEMSOFRHODODENDRONANDAZALEA031111Rpdf.pdf?la=en



Botryosphaeria canker.

“NATURAL” PESTICIDES

Many home gardeners prefer to not use conventional pesticides or pesticides at all in their lawn or garden so it is no wonder why the internet is ablaze with folks providing recommendations for “natural” or homemade pesticides. Products containing neem oil are also gaining popularity. While seeking to use supposedly less toxic products around our homes can be a noble idea, there are some risks we need to consider. Below are some common myths and misconceptions surrounding the idea of “natural” pesticides.

“Soap and water is a safe way to get rid of insects.”

This homemade insecticide may be effective on some insects, particularly soft bodied insects like thrips and aphids, but requires frequent and thorough applications. Insects, like caterpillars and beetles, likely won't be affected. It's important to note that beneficial insects, like ladybug larvae, are also soft bodied insects. Soap and water can burn foliage when applied to stressed plants or when temperatures reach over 90 °F. In addition, due to the chemical properties of most dish soaps they can strip plant leaves of their natural oils or waxy coating, causing the foliage to dry out. Most of the recipes for this homemade insecticide vary greatly online, which increases the risk of plant damage. Using an insecticidal soap that has been approved by the EPA is the safest way to get rid of insects, as the product label includes information on how to responsibly apply the product. Important information found on a commercially available insecticidal soap that is not found on the back of a bottle of Dawn dish detergent include: what plants the product can safely be used on, which insects it is intended to control, and how to determine the correct rate for application.

“Vinegar is an environmentally-friendly way to kill weeds.”

The vinegar most of us have in the kitchen is 5% acetic acid which will not work to control large, established weeds. To effectively control weeds with vinegar you need 10-20%, which at this higher concentration can be vary dangerous to handle, requiring PPE to protect your skin and eyes. It is also important to note that if you are trying to spot treat weeds in a lawn, you will kill the grass around the weeds as vinegar is technically a non-selective herbicide. So, vinegar can be used as an herbicide but whether it is more environmentally-friendly or safe than commercial herbicides, is still debated.

“Just spray neem oil on it!”

Neem oil is being used more and more, often incorrectly as a catch-all remedy to plant pests or diseases. You can readily purchase neem oil and since it is an EPA approved product, you can also read what insects and diseases the product should be used on. However, I find that many people disregard that information and haphazardly apply the product because it contains a naturally derived ingredient. Though naturally occurring, neem oil should be used with caution, like any pesticide. Because it is a horticultural oil there is potential for phytotoxicity, but perhaps the most important warning with these products is their potential toxicity to bees. It is recommended that you apply neem oil when plants are not actively blooming and/or bees are not active (early morning or late evening) to prevent the pollinators from bringing the neem oil back to the hive where it can inhibit the growth of larvae inside. Remember, identification is the first step in controlling any pest or disease!

GARDEN INVADERS

Several invasive species have caught the attention of the news media over the last few months. Let's learn how to identify these species and assess the actual risk they pose to us in New Jersey.

Jumping Worms: These earthworms native to Asia have been in the U.S. for decades, but are making their way into states all across the country. They feed on leaf litter at the top of the soil, not burrowing into the ground like most earthworms that we see. However, they are capable of dramatically changing soil texture and chemistry, stripping topsoil of nutrients, and altering plant communities. They are spread across the country in potted plants, soil, and mulch. Fishermen and vermicomposters should inspect the worms that they purchase and never release them into the wild. These worms have not yet been found in NJ, but you should keep an eye out for them.



Photo of the Asian jumping worm from Wisconsin DNR. Notice the smooth pale band close to the head. <https://dnr.wisconsin.gov/topic/Invasives/fact/jumpingWorm.html#:~:text=Jumping%20worms%2C%20known%20also%20as,their%20name%20from%20their%20behavior>.

Asian Giant Hornet: Also commonly referred to as "Murder Hornets", these insects were first identified in Washington state in 2019. The likelihood of these giant hornets spreading to the east coast is very low. If you see a very large wasp, it is likely a native Cicada killer wasp which is not harmful to humans. Another insect commonly mistaken for the "Murder Hornet" in the east is the European hornet. This hornet was first reported in North America in 1840 and like most hornets, will not harm humans if left alone.

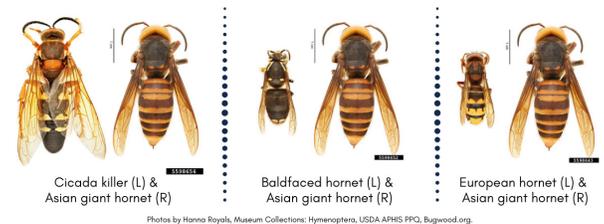


Photo comparing different wasps and hornets from Illinois Extension. <https://extension.illinois.edu/blogs/good-growing/2020-08-27-its-big-its-not-murder-hornet-how-identify-large-wasps>.

Hammerhead Worms: These non-native flatworms gained popularity after an article circulated online stating that upon touching the worm you could have a serious reaction from the dangerous toxin they produce. While hammerhead worms do produce a toxin, it is mild and will not cause any serious reactions. They are known to eat earthworms but otherwise no known environmental impacts have been documented since their arrival to the U.S. decades ago.



Photo of a hammerhead worm.

If you come across any of these species or others that you are unsure of, bring a sample into the Rutgers Cooperative Extension office in Millville. Specimen can be placed in a bag and put in the freezer or submerged in alcohol. Be mindful that if you attempt to kill the hammerhead worm by chopping it up, it will result in new worms as each piece will regenerate. It is not recommended to apply pesticides for these species.

SEASONAL CHECKLIST

- Prune spring flowering shrubs like dogwood, forsythia, rhododendron, roses, and weigela
- Keep you lawn mowed at a height of 3” to keep it healthy and green
- Scout for insects and pull weeds weekly
- Start a compost pile
- Only use pesticides when necessary to protect the pollinators
- Water plants in the early morning or evening; avoid making the leaves wet
- Seed your lawn in late August-September
- Harvest or dry flowers to use in arrangements
- Cover berry bushes with netting to keep birds from eating them
- Preserve summer fruits and veggies by canning or freezing
- Apply mulch to the garden to help regulate soil temperature and moisture
- Start cool season crops indoors mid-summer
- Provide pollinators with some fresh water by filling a small dish with gravel and water
- Check for ticks and avoid tall grass or weeds
- Donate excess garden veggies to neighbors or local food banks
- Squash Spotted Lanternfly
- Keep an eye out for common warm season diseases like powdery mildew and leaf spot
- Fertilize container vegetables weekly with a soluble fertilizer (2-3 weeks after planting into an amended soil)
- Move houseplants outdoors
- Dry garden herbs and flowers to make herbal teas
- Renovate strawberry beds after fruiting is finished

RESOURCES

Spotted Lanternfly:

<https://extension.psu.edu/how-to-create-a-wildlife-barrier-for-a-spotted-lanternfly-sticky-band-trap>

<https://extension.psu.edu/spotted-lanternfly-management-guide>

<https://extension.psu.edu/how-to-build-a-new-style-spotted-lanternfly-circle-trap>

Attracting Beneficials:

<https://extension.psu.edu/attracting-beneficial-insects>

<https://hgic.clemson.edu/factsheet/incorporating-beneficials-into-the-gardeners-toolkit/>

<https://ncipmhort.cfans.umn.edu/sites/ncipmhort.cfans.umn.edu/files/2020-05/beneficial%20insects%20biological%20control%20xerces.pdf>

Minimizing Garden Diseases:

<http://plantclinic.cornell.edu/factsheets/minimizeveggiediseases.pdf>

<https://extension.umn.edu/how/preventing-plant-diseases-garden>

Rhododendron Issues:

<https://extension.umd.edu/resource/azaleas-and-rhododendrons-identify-and-manage-problems>

“Natural” Pesticides:

<https://extension.umn.edu/yard-and-garden-news/coming-clean-soap-garden>

<https://edis.ifas.ufl.edu/pdf%5CIN%5CIN124800.pdf>

<https://fairfield.osu.edu/news/vinegar-it-%E2%80%9Csafer%E2%80%9D-herbicide>

<https://extension.unh.edu/blog/2020/01/what-should-neem-be-used-plants>

Garden Invaders:

<https://www.dnr.state.mn.us/invasives/terrestrialanimals/jumping-worm/index.html>

<https://eoas.rutgers.edu/eoas-in-the-news-asian-giant-murder-hornets-buzz-into-u-s-could-they-get-to-philly-area/>

<https://extension.psu.edu/hammerhead-flatworms-and-other-land-planaria-of-eastern-north-america>

UPCOMING EVENTS

Visit our website or Facebook page for a complete calendar of events. All events are to be held at our office on 291 Morton Ave. in Millville, NJ.

June 14, 11am: Flower Arranging Class (Ikebana)

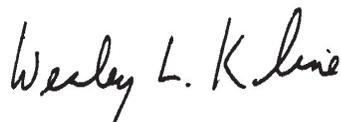
Mariko Ono, a Japanese Flower Arrangement Master, will teach an hour long class on the centuries old art of arranging flowers. The cost is \$10 and we request participants bring a soup bowl of coffee cup, and pruners. Checks should be sent in advance to 291 Morton Ave., Millville made payable to Rutgers University. Space is limited. Each participant will go home with their own flower arrangement.

June 16, 4pm: Composting Basics

Rutgers Master Gardeners will share how you can start and maintain a compost pile in your yard. This workshop is great for beginners and those looking to improve an existing compost pile. This event is free but please register in advance by calling 856-451-2800 x4.

July and August events to be announced.

Prepared by Lauren Fordyce, Home Horticulture Educator & Master Gardener Coordinator



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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The user is responsible for the proper use of pesticides, residues on crops, storage and disposal, as well as damages caused by drift.

Use of Trade Names: Trade names are used in this publication with the understanding that no discrimination is intended and no endorsement is implied. In some instances the compound may be sold under different trade names, which may vary as to label.

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