



The Garden Spade

August 2019

“Reliable, Responsive and Relevant Information for the Missouri Gardener”

Sudden Oak Death Confirmed in Missouri

Sami Jo Freeman, Missouri Department of Agriculture

“Consumers should properly dispose of infected rhododendrons and lilac plants.”

The Missouri Department of Agriculture, in coordination with USDA Animal and Plant Inspection Service, has detected ramorum blight on rhododendron plants shipped to some retail nurseries in Missouri. The disease is more commonly known as Sudden Oak Death when it infects oak trees. The



Rhododendron with Sudden Oak Death. Photo by Bruce Moltzan, Missouri Department of Conservation

rhododendrons were shipped to Wal-Mart and Rural King stores throughout Missouri, as well as the Springfield Home Depot, Stark Bros. Nursery Garden Center and Fort Leonard Wood PX.

Consumers who purchased rhododendrons or lilac plants of the known infected varieties labeled Park Hill Plants from these stores between March and June of this year should dispose of the plants immediately.

Consumers who are unsure of the variety should look for wilting or browning leaves, leaf spots and twig dieback. If consumers notice these symptoms, they should contact the Department’s Plant Pest Control team at (573) 751-5505 and begin the disposal process.

Varieties that have been infected should be disposed of immediately to prevent further spread of the disease. Plants may be destroyed by burning, deep burial or by double-bagging the plant with its root ball in heavy duty trash bags for disposal into a sanitary landfill (where allowable). Consumers should not mulch, compost or dispose of the plant material in municipal yard waste. Garden tools used to dig up any affected plants should also be sanitized before they are used again.

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Sudden Oak Death Confirmed in Missouri

Sami Jo Freeman, Missouri Department of Agriculture

Continued from page 1 Sudden Oak Death is a form of ramorum blight and is caused by a fungus-like pathogen known as *Phytophthora ramorum*. Since the 1990s, the plant disease has caused mortality in some types of oak trees in California and Oregon, but it has not established itself in the Midwest. The disease has a host list of more than 100 species of trees and shrubs, including rhododendrons.

Since early June, the Department has worked alongside USDA-APHIS to visit more than 113 retail locations to collect samples and place potential host plants in quarantine. USDA-APHIS has worked with Wal-Mart to organize a voluntary recall of the impacted plants, while other locations have isolated or destroyed affected plants. Any remaining plants confirmed with ramorum blight, and any host species comingled with the confirmed positive plants, will be destroyed.

Shipment of these rhododendrons has been successfully traced back to Park Hills Plants in Oklahoma and may have originated from nurseries in Washington State and Canada. Plant varieties identified during the investigation, which is still partially ongoing, were shipped to at least 18 states.

Specific varieties of rhododendrons that have tested positive in destination states include:

- Cat Cunningham Blush
- Firestorm
- Holden
- Nova Zembla
- Percy Wiseman
- Roseum Elegans
- Wojnars Purple.

Specific varieties of lilac that have tested positive in destination states include:

- Common Purple
- Persian Lime

For more information, see the links below.

- Sudden Oak Death Alert for Missouri from the Missouri Department of Agriculture
<https://agriculture.mo.gov/plants/suddenoakdeath/>
- Landscape Report on Sudden Oak Death from Purdue Extension
<https://www.purduelandscapereport.org/article/special-alert-sudden-oak-death/>
- Hosts of *Phytophthora ramorum* from USDA/APHIS
https://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/usdaprlist.pdf
- A good website to see the symptoms on specific species from California Oak Mortality Task Force
<http://www.suddenoakdeath.org/maps-media/photos/plant-symptom-photos/>

August Gardening Calendar

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Outdoor Flowering Plants and Ornamentals

- Keep newly planted trees and shrubs well-watered.
- Clean up fallen rose and peony leaves. They can harbor disease and insect pests over the winter if allowed to remain on the ground.
- During hot, dry August days, avoid deep cultivation in your flowerbeds. Loosening the soil under these conditions reduces water uptake and make plants often look much worse after cultivation than before.
- Continue spraying roses with fungicides that are susceptible to black spot and other fungal diseases.
- Keep an eye out for spider mites on ornamentals! They love it hot and dry. Frequent, strong jets of water can help reduce mite populations.
- Avoid any temptation to prune shrubs and trees now. Doing so will promote new growth that will not harden by winter which can lead to winter damage.
- If azaleas look chlorotic (pale green to yellow), check the soil pH. They need an acid soil.

Vegetable Gardening

- Many herbs self-sow if the flowers are not removed. Dill and sage seeds fall around the parent plant and come up as volunteers the following spring.
- Harvest winter squash and pumpkins by cutting with 2 or 3 inches of stem; they'll keep better in storage that way than if stemless.
- Later this month, plant a winter cover crop to enrich your garden soil. Annual rye, red clover, and hairy vetch are good choices.
- Fall vegetables can be planted until the 20th of this month. Vegetables include lettuce, radishes, cabbage, broccoli, cauliflower, spinach and turnips.
- Compost plant materials from the garden as crops are harvested. Avoid composting any plants that are disease or insect infested.

Fruits and Nuts

- If your apples are lumpy, they may have apple maggots. Be sure that fruit is not left lying on the ground because the maggots live in fallen apples and then pupate in the soil.
- Heavy rains at harvest can dilute the sugars in melons. Watermelons can re-concentrate the sugar if left for a few dry days however cantaloupes cannot do this.
- To reduce the number of pests on your fruit tree for the coming year, pick up and destroy all fallen fruit. Worms hide in the fruit and then pupate into the soil. They will be ready to lay eggs next year.
- Watch for fall webworm activity now on fruit and nut trees.

Commonly Recognized Butterflies in Missouri

Monarch

Viceroy

Common Buckeye

Black Swallowtail

Tiger Swallowtail

Zebra Swallowtail

Question Mark

Painted Lady

Great Spangled Fritillary

Easter Comma

Sphinx Moth

Polyphemus Moth

Tawny Emperor

American Lady

Silvery Checkerspot

American Copper

Brush-footed Butterfly

Blue Hairstreaks

Red Admiral

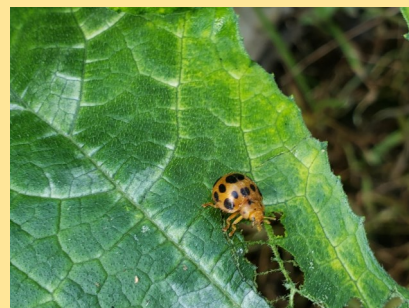
Cabbage White

Azure

Popular Topics at the Extension Office

Katie Kammler, MU Extension Field Specialist in Horticulture

Squash lady beetles have been a problem on cucumber, squash, and pumpkin this year. Last year was the first time I received pictures of them and when I went home, I found them in my pumpkin patch. I had to research the insect to identify it. A similar looking insect that we see in our gardens is the Mexican bean leaf beetle. I just discovered while writing this article that both are closely related and the difference is the number of spots on their back and their food preferences. These two damaging pests are in the same family as the beneficial ladybird beetles (ladybug). In small garden areas, hand picking them off works well.



Squash lady beetle (top), Damage from squash lady beetle (middle) and pupa stage of beetle (bottom).



Mass migrations of **dark winged fungus gnat** larvae have plagued certain areas. These pictures have been coming in recently with all the rain that we have had in the Southeast Region. The larvae all cling together and form a snake-like mass when they migrate, search for a new food source or search for a place to pupate. They do not do any damage but they are a rather startling sight.

Fungus gnat larvae travelling in mass. They cling together as they move along the ground.



A **Facebook myth** that I have seen making the rounds again this year is that bell peppers are either male or female by the number of lobes on the bottom. This is false!

Peppers develop from perfect flowers and have both male and female parts for pollination. It is NOT true that the 4-lobed fruit is female, sweeter, and has more seeds. There is not a difference in flavor or gender if the pepper only has three lobes. The only true part is that a 4-lobed pepper will have more seeds but that is because of the size difference!

Ants in the garden is another issue that is coming into the office a lot. Ants are secondary pests and not the ones doing the damage in a vegetable garden. They also like to “farm” aphids by protecting them because the ants feed on the honeydew secreted by the aphids. So if this sounds like your problem, if you control the aphids, you control the ants.

At a Glance: Oregano

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

Oregano (*Oregano vulgare*)

Uses: Culinary; Ornamental

Type: Perennial; Ornamental; Pollinator plant;

Size: Grows 12 to 24 inches tall and wide. Attractive cluster of pink summer flowers. To keep plants bushy, shear stems closer to the ground before flowers open.

Light: Full sun to partial shade

Soil: Rich, moist but well-drained

Harvest notes: For fresh use, snip leaves as needed through the summer. For drying, cut stems close to the ground just as the flowers begin to open.

How to use it: Use fresh or dried; perfect complement to pasta-type dishes and pizza sauces. Good for sprinkling on roasting meats.

Simple Spaghetti Sauce

1 28 oz Can Crushed Tomatoes

1Tbl Olive Oil (optional)

½ tsp Minced Garlic

½ tsp Salt

½ tsp Basil

½ tsp Oregano

½ tsp Parsley

1Tbl Brown Sugar (optional)

Combine all ingredients in a saucepan and heat on stove. Let the sauce simmer for 10 to 15 minutes to let the flavors mingle before using.

Recipe by Donna Aufdenberg



Native Plant of the Month: Rough Blazingstar

Liatris aspera

Herbaceous perennial, also called gay feather

Height: 2 to 3 feet

Flower: rose-purple on a spikelike stalk, flowerheads have 16 to 35 florets

Bloom time: August to November

Comments: Found statewide in dry upland prairies, glades, savannas, roadsides, and railroads. Favorite of many types of bees and butterflies.

Information sources: Missouri Wildflowers by Edgar Denison

Picture courtesy of http://www.illinoiswildflowers.info/prairie/plantx/rgh_blazingstarx.htm

Squash Bugs

Katie Kammler, MU Extension Field Specialist in Horticulture

As many of you know, I'm slightly obsessed with pumpkins and squash which is why I'm shocked that I haven't written an article about my continuous battle with squash bugs. They are one of the biggest pest problems with growing squash and pumpkins. They can also be found on cantaloupe, cucumber, gourds, and watermelon. They are sometimes confused with stink bugs because of similar coloring and shape but squash bugs are more elongated. They start as red egg clusters, typically on the underside of leaves. At this stage, it is easy to use duct tape to pull the eggs off the leaf without damaging the leaf. Then you can use your favorite torture technique to dispose of them. Options include putting them in a bag and waiting for them to hatch before burning them or folding the duct tape on itself and popping them like miniature bubble wrap! Adults emit a foul odor when crushed so I don't recommend popping them like bubble wrap. Have I mentioned that I really don't like squash bugs??



Newly hatched nymphs are pale green with black legs and they go through five instar growth stages before becoming an adult, changing from green to shades of gray. Adults are 5/8" long and dark brownish gray in color. They have piercing-sucking mouth parts that suck plant sap while secreting highly toxic saliva into the leaves, stems, or fruit. They can do a lot of damage in a short period of time with all growth stages feeding on the plant.

They overwinter as adults under plant debris, soil clods, rocks, log piles, and buildings. They start becoming active in June and are adept at hiding in plants or mulch while they lay numerous egg clusters on the plants. The nymphs typically feed on the underside of the leaves, protected from predators and the sun. If you miss seeing the insects because they are hidden under the leaves, typically you will notice yellowing and then browning spots in the leaves and eventually leaf death with high populations. They can also cause damage on the fruit, leading to disease problems.

Monitoring is important to catch the problem before the populations explode. Look under leaves for egg clusters and nymphs and look at the top of the leaves for the discoloration caused by feeding. They are easy to control by hand or common insecticides when they are small but there aren't very many chemical options for the adults. At the base of the stems or in mulch is where adults like to congregate. Boards can be put down and then check underneath for the hiding adults and employ your favorite torture technique.



Several stages of squash bugs (top). Eggs and first instar squash bugs (bottom).

Upcoming Events

August 2019

29-Aug 3 St. Francois County Fair, Farmington, MO

5 August Twilight Farm Walk About, Julie's Produce at 2700 Ott Ranch Rd., De Soto, MO; 6:30 p.m. until dusk; To RSVP, call 636-797-5391;

12 Winter High Tunnel Production Workshop from 10 a.m. until 3 p.m. at the Hillsboro City Hall, 100 Main St., Hillsboro, MO; Workshop fee is \$10; Make checks out to University Extension; Mail to Jefferson County Extension Center, P.O. Box 497, Hillsboro, MO 63050; Walk-ins welcome but not guaranteed a lunch.

September 2019

7-14 SEMO District Fair, Cape Girardeau, MO.

20-21 East Perry Community Fair, Altenburg, MO.

Click on blue underlined link to be taken to a corresponding website...

Stokes Aster

Donna Aufdenberg, MU Extension Field Specialist in Horticulture

I have always admired Stokes Aster in other people's gardens. It is a plant that I am still planning to try.

Stokes aster is named for English physician/botanist Jonathan Stokes (1755-1831). It is a member of the aster family and is a low growing perennial plant that grows about 12 to 18 inches tall with a basal cluster of green leaves.



Picture by Donna Aufdenberg

It is easily grown in average, medium moisture but well-drained soil. It

grows best in full sun but will tolerate part shade. Avoid areas that stay wet in winter.

Flowers colors include white, purple or pink and they bloom from early to mid-summer at the ends of leafy stems that rise from a base. Leaves are evergreen in warm winter climates.



Picture Courtesy of Missouri Botanical Garden

Deadhead individual spent flowers and remove spent flowering stems to encourage additional bloom. Plants can be cut back to basal foliage after bloom.

Information taken from Missouri Botanical Garden.

Spotted Wing Drosophila

Kelly McGowan, MU Extension Field Specialist in Horticulture

As long as humans have been growing and cultivating plants, insect pests have been an issue. From plagues of locusts in Biblical times to modern ‘plagues’ of Japanese beetles, it can seem as though these pests are always one step ahead of us.

If you have not heard of spotted wing drosophila (*Drosophila suzukii*), let me introduce you to one of our latest contenders. Spotted wing

drosophila, or SWD, is a small vinegar fly that originated in Eastern Asia. It was likely accidentally introduced into the U.S. by hitching a ride in shipping containers, infected fruit or other similar means. SWD is an invasive insect that attacks soft-skinned fruit such as blueberries, blackberries, cherries, strawberries,



Spotted Wing Drosophila on raspberry in a high tunnel. Courtesy of Tim Baker.

raspberries, elderberries and grapes. What sets SWD apart from other fruit-attacking flies is that the female targets ripening fruit. The female has a serrated ovipositor that is specially designed to cut a slit in the skin of the fruit so she can lay her eggs inside. The eggs then hatch and the larvae begin to feed about the same time the fruit is ready to harvest. Commercial fruit farms then have to discard their product because no one wants to eat fruit with small white larvae inside. SWD was first detected in Missouri through trapping efforts in June of 2013. Since then they have spread across the state, as well as the country, and are now considered a serious insect pest of small fruit crops.

Control of SWD is possible, but can be difficult. The key is detecting their presence before they have a chance to attack the fruit. It begins with trap monitoring a few weeks before berry ripening and then throughout the harvest season. Homemade traps can be constructed using active dry yeast, sugar and water. The traps are then hung several feet off the ground in a shady area near the fruit crop. As soon as SWD is detected, insecticides (either organic or synthetic) must be applied on a regular basis throughout harvest. Cultural controls such as sanitation are also important. This includes cleaning up and destroying all infected, over ripe and fallen fruit, which can be a not-so-pleasant and time-consuming job.

For more information about spotted wing drosophila, trapping, identification, or control, visit extension.missouri.edu or contact your local MU Extension office.



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Each month there is a title picture on the front cover of the newsletter. This month: Butterfly Milkweed