



Home, Yard, and Garden Pest Newsletter

Issue 9 • August 12, 2021

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Dogwood sawfly

Dogwood sawflies (*Macremphytus tarsatus*) are native to much of the eastern US and Canada. They are a wasp species whose caterpillar-like larvae feed on the foliage of dogwoods in groups.



Left: Dogwood sawfly feeding injury, Travis Cleveland, University of Illinois at Urbana-Champaign

Right: Dogwood sawfly larva close-up, Travis Cleveland, University of Illinois at Urbana-Champaign

Dogwood adults emerge and lay eggs in mid-late spring. The eggs are laid on the underside of dogwood leaves along leaf veins. The larvae hatch and begin to feed on dogwood foliage in late-spring. The larvae often go unnoticed until late summer, when both the larvae and their injury become obvious. Most of the damage occurs later in the season and doesn't impact overall plant health unless there are high populations of larvae.

Scouting for dogwood sawfly larvae can be tricky. Their color and markings can differ greatly, giving the impression that there are multiple insect species feeding on the plant. The larvae may be green with black spots, white with black spots, or white and covered in waxy material. Larvae in their last instar (growth stage) are usually yellow with dark markings down their back.



Dogwood sawfly eggs on leaf, Bruce Watt, University of Maine, Bugwood.org

Hand picking insects or knocking them off the plants are among the best ways to control older larvae since they are easy to spot on the plants. Insecticides such as carbaryl (Sevin) or pyrethroids can be applied when significant defoliation occurs. However, insecticides are most effective on young larvae. Since sawfly larvae are not true caterpillars, Btk (*Bacillus thuringiensis kurstaki*) products will not kill them.



Left: Dogwood sawfly larva green, Travis Cleveland, University of Illinois at Urbana-Champaign
Center: Waxy middle instar dogwood sawfly larvae, Bruce Watt, University of Maine, Bugwood.org
Right: Older dogwood sawfly larvae, Travis Cleveland, University of Illinois at Urbana-Champaign

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July 2021 Plant Clinic Sample Summary

Summary of ornamental, fruit, and vegetable samples diagnosed July 2021.

The Plant Clinic remains open. We are currently operating with reduced staff and are only in the lab as needed for diagnostics and other lab work. We may not be able to answer or return phone calls in a timely manner though we are making every attempt to do so. You can also email us at plantclinic@illinois.edu.

Samples shipped via USPS, UPS, and FedEx are all arriving in a timely manner. We recommend shipping early in the week (Monday-Wednesday) and keeping the tracking number so we can trace the package if needed.

We are receiving more maple and oak samples. Another red oak sample from Lake Co. tested positive for Oak Wilt (<http://hyg.ipm.illinois.edu/article.php?id=1163>), a lethal oak disease. As a reminder, do not prune oak trees during the growing season!

Another sample of boxwood from Cook Co. was confirmed with Boxwood blight. For more information, please see: <http://hyg.ipm.illinois.edu/article.php?id=869> and <http://hyg.ipm.illinois.edu/article.php?id=1137>.

Dogwood anthracnose was confirmed on a sample from Sangamon Co.

Southern blight was confirmed on coneflower from Champaign county. Please view the Southern Blight article within this issue of the Home, Yard, and Garden Pest Newsletter for more information about this disease.

We're also starting to see environmental scorch symptoms and symptoms characteristic of bacterial leaf scorch. We will be testing for bacterial leaf scorch later in the year (September and October). Samples can be submitted now and will be stored until we begin tests. For more information about bacterial leaf scorch, please see: <http://hyg.ipm.illinois.edu/article.php?id=1029>

We're also seeing a lot of white oak samples with kermes scale, everything from mild to severe infestations (<http://hyg.ipm.illinois.edu/article.php?id=368>). The number of samples with twospotted spider mites (<http://hyg.ipm.illinois.edu/article.php?id=386>) is also increasing which is not surprising as we get into hot, dry weather.

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July 2021 Plant Clinic Sample Summary

| Host | Pathogens and/or Pests Confirmed (C) or Suspected (S) |
|-----------------|--|
| Apple | Bully's eye rot (C) |
| Arborvitae | Phomopsis needle blight (C), Phyllosticta needle blight (C), Pestalotiopsis needle blight (C) |
| Blackeyed Susan | Downy mildew (C), Septoria leaf spot (C) |
| Boxwood | Boxwood blight (C), Volutella blight (C), Fusarium canker (C), Boxwood leafminer (C), Boxwood spidermite (S), Boxwood psyllid (C), Macrophoma leaf spot (C) |
| Catalpa | Phyllosticta leaf spot (C) |
| Coneflower | Southern blight (C) |
| Cucumber | Anthracnose (C), Fusarium wilt (C) |
| Dogwood | Dogwood anthracnose (C), Fungal cankers (C) |
| Fir | Phyllosticta needle blight (C), environmental stress (S) |
| Horsechestnut | Guignardia leaf blotch (C) |
| Hydrangea | Bacterial blight (C), Twospotted spider mite (C) |
| Lavender | Phytophthora root rot (C) |
| Lilac | Leaf spot (C) |
| Magnolia | Fungal cankers (C), sooty mold (C) |
| Maple | Anthracnose (C), Aphids (C), Oystershell scale (C), Gouty vein gall midge (C), Fun-gal cankers (C), Environmental stress (S) |
| Oak | Oak wilt (C), Kermes scale (C), Jumping oak gall (C), Oak twig canker (C), Oak bul-let gall wasp (C), Fugal cankers (C), Anthracnose (C), Environmental stress (S) |
| Pear | Bacterial Blast (C) |
| Pepper | Bacterial leaf spot (C), Rhizoctonia root rot (C) |
| Pine | Environmental stress (S) |
| Privet | Thrips (C), Environmental stress (S) |
| Rose | Phomopsis canker (C), Rose rosette disease (S), Environmental stress (S) |
| Spruce | Sudden Needle Drop (SNEED) (C), Transplant shock (S), Environmental stress (S) |
| Sweetgum | Anthracnose (C), Environmental stress (S) |
| Tomato | Fusarium wilt (C) |
| Turf | Anthracnose (C), Magnaporthe summer patch (C), Rhizoctonia root rot (C) |

Southern Blight

Sorry, those aren't mustard seeds sprinkled at the base of your coneflowers. They are sclerotia, fruiting bodies produced by the southern blight fungus, *Athelia rolfsii* (syn. *Sclerotium rolfsii*). The U of I Plant Clinic recently diagnosed an *Echinacea* sample with southern blight. This soilborne pathogen causes basal rot to stems and petioles of herbaceous plants. It is capable of infecting a wide variety of plant species, including many annuals, perennials, woody ornamentals, and turfgrass. I have mostly encountered this pathogen infecting hosta, where it is commonly referred to as hosta petiole blight.



Mustard seed-like sclerotia of Southern Blight. Host: Hosta

Southern blight can rapidly spread under favorable environmental conditions, so it's important to scout plants and catch the disease early. Leaves will rapidly wilt, then turn yellow and become necrotic. Distinct lesions will not be seen on the leaves as the fungus is infecting the base of the plant. This also means that infected tissue (leaves on hosta, stems of other plants) can easily be pulled from the ground. A white mat of mycelium develops near the decaying stem tissues and spreads out onto the nearby soil surface. Numerous tan, brown or black mustard-seed-like structures, called sclerotia, develop within the mycelium. Sclerotia near the soil surface serve as overwintering structures. They are often seen in the mycelium, on diseased tissues above or below ground, on soil surfaces, or in soil crevices.

High moisture levels, both in soil and under plant canopies, and high temperatures favor southern



Southern Blight mycelium spreading over the soil surface and plant tissues. Host: Hosta

blight. The pathogen spreads short distances within a planting occurs by mycelial growth from infected plants, plant debris, or sclerotia. Longer distance dispersal occurs as a result of moving infected plant material or infested soil.

Disease management options are limited for residential landscapes. First and foremost, avoid introducing the pathogen by purchasing healthy, disease-free plants from a reputable retailer. Inspect new plants for symptoms and signs of disease before planting. If you spot the disease in an existing planting, remove all of the infected plant parts. Do not compost diseased plants. Infected plants that remain in an area will serve as a continuous source of inoculum. Be careful not to spread any of the fungal mycelium or sclerotia. Place them directly into a bag before removing them from the site.

The mustard-seed-like sclerotia produced by the pathogen have been reported to survive in the soil for 3-4 years. Remove the top several inches of soil around the plant, again being careful not to spill any as you work. Alternatively, deep plowing (not very practical) or turning the soil to an 8-12 inch depth will bury the pathogen. Mulch and organic debris may contribute to the overwinter survival of the pathogen. Pulling mulch back from the base of plants before winter may help to kill the fungus. Improve air circulation and plant spacing to reduce moisture trapped within a dense plant canopy that favors disease development.

Fungicide options are limited, and will suppress but not completely eliminate the pathogen. Products

with the active ingredient Tebuconazole listed on Southern Blight on their labels. Additional active ingredients are available for commercial applicators. However, those product labels prohibit use on residential landscapes.

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Dogwood Powdery Mildew

Powdery mildew is a common fungal disease problem on many perennials, as well as annuals, shrubs, and even trees and turf. It is most noticeable in the hot, dry dog days of August. Unlike most fungal diseases, powdery mildew develops rapidly in extended periods of warm, dry weather when morning dews are heavy.



Powdery mildew on *Cornus florida*. Travis Cleveland, University of Illinois

We consider powdery mildew to be more of an aesthetic problem in most cases because it occurs late in the season and does not affect overall plant health. However, flowering dogwoods may be more severely affected by this disease because it occurs earlier in the season. Look for powdery mildew of dogwood on crowded plants, in a shaded location, or where air circulation is poor. Dogwoods in the open, as specimen trees, are less likely to be infected. The symptoms on dogwood are different than



Powdery mildew on *Cornus florida*. Travis Cleveland, University of Illinois

the typical powdery mildew and may be passed off as another problem. On dogwood, this disease may cause the typical white powdery growth on the leaf surface, but it may also cause scorch on the edges of leaves, dead patches on leaves, yellowing, leaves with a reddish color, and premature leaf drop. While the disease is unlikely to kill the tree, it may decrease flower production the following year and increase susceptibility to insects and other diseases.

When possible, plant a powdery mildew-resistant species or cultivar. Flowering dogwood, *Cornus florida*, as a species, has limited resistance to powdery mildew. However, the University of Tennessee bred several flowering dogwood cultivars with powdery mildew resistance. These include: Karen's Appalachian Blush, Jean's Appalachian Snow, Kay's Appalachian Mist, and 'Appalachian Joy.' Other resistance species include: Kousa, *C. kousa*; redosier, *C. sericea*; Corneliancherry, *C. mas*; gray, *C. alternifolia*; and Tatarian, *C. alba*. Some hybrids of *C. kousa* × *C. florida* such as 'Stellar Pink,' 'Stardust,' 'Galaxy,' 'Constellation,' and 'Aurora' are also resistant to powdery mildew.

Cultural practices include pruning out dead wood, watering the plants in periods of drought, and prune surrounding plants to promote better airflow in the landscape. It is also a good idea to mulch dogwoods to avoid trunk injuries from mowers or trimmers.

Fungicides may be used to control this disease, but make sure that they will be worth the expense. Begin applications to high-value flowering dogwoods in early June, and reapply once every two to three weeks until mid-August. Be certain that your spray equipment provides good coverage of the fungicide. Fungicides that are registered for use on dogwoods may include azoxystrobin, copper products, myclobutanol, and thiophanate-methyl. Homeowners can apply products containing myclobutanol, neem oil, potassium bicarbonate, sulfur, tebuconazole, or triticonazole.

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Considerations Before Consuming Produce Following a Pesticide Misapplication



*Herbicide injury on a newly planted pepper,
Michelle Wiesbrook, University of Illinois.*

Every summer Extension Pesticide Safety Education Specialists are asked the same type of question re-

peatedly by home vegetable gardeners. The details leading up the situation at hand vary, but in the end the basic question is the same. Their vegetable plants have accidentally or mistakenly come into contact with a pesticide being applied. They always want to know if their produce is safe to eat.

The University of Illinois does not recommend consuming anything that has been applied with a pesticide which is not labeled for application onto that plant species. This includes situations where pesticide drift is strongly suspected. Products that may be applied to food crops must have established, legal residue tolerance levels of which labeled application rates are then based. Often in the case of pesticide drift, there are no known tolerance levels and even if there were, the application rate would not be known. So it's impossible to know if the produce would be safe to consume or not. Perhaps it would degrade quickly within the plant. Perhaps it would accumulate in the fruit. It is simply unknown as it hasn't been tested.

Can garden produce be tested by an independent lab for pesticide residues? Yes, but you would need to know what specific chemical to test for and you would need to locate a lab that is capable of testing for that compound. Also, be prepared to pay a few hundred dollars for each test. Typically, this expense will greatly exceed the value of the garden's produce. Of course if drift injury is suspected, you can file a formal [pesticide misuse/incident complaint](#) with the Illinois Department of Agriculture (IDOA), but it must be received within 30 days of the incident or within 30 days of when the damage was first noticed. Additional information on pesticide uses and misuses can be found on [the agency's website](#). The Department's role in pesticide misuse incidents is limited to determining whether a violation has occurred. IDOA cannot help complainants recover damages.

I know that herbicide injury on vegetable plants is upsetting. I have found myself in this same situation a few times. If plants are visibly injured near harvest time, it should be a no-brainer not to eat the fruit. It's better to err on the safe side and avoid consuming anything that is definitely showing injury symptoms or weird growth (twisting, curling, cupping, strapping, leathery leaves, etc.). It gets trickier when drift is suspected but not confirmed early in the growing season but then plants grow completely

out of any symptoms by harvest. If there are no injury symptoms, they are likely fine. When a misapplication such as drift occurs, the amount of damage to be expected depends on several things including how much was applied, the susceptibility of the plant species in general, how healthy they were, their growth stage, the weather conditions, etc. Keep in mind, herbicide injury symptoms can easily be confused with symptoms caused by insects, disease, or environmental stress and vice versa. Also, realize that tomatoes and grapes are extremely sensitive to herbicides and can show injury symptoms at ultra-low rates of certain growth regulator herbicides like dicamba and 2,4-D which can travel up to 2 miles from the target site via vapor drift. I live in the country and grow both grapes and tomatoes. Guess what happens just about every summer? Guess what looks completely fine by harvest time? I have a small orchard and a good sized vegetable garden. Our property is surrounded by farm fields. I'm certain that every year, some plants are likely drifted on though they may not show any damage or I may not ever notice it. There are risks with everything and the dose makes the poison. It's a judgement call that producers and gardeners have to make for themselves.

If the chemical and application dates are known, growers can contact the National Pesticide Information Center (<http://npic.orst.edu/>) and discuss with their trained toxicologists the risks associated with consuming any affected produce, if affected plants can be salvaged after a certain amount of time has passed, etc. They can help you make an informed decision. They will not give you a simple yes or no answer concerning if your produce is truly safe to eat or not.

Produce is bountiful this time a year. Vegetables can be bought at stores and farmers' markets. Neighbors will likely happily share their abundance with you. By late season, I'm always so tired of picking the garden and I'm pushing produce on my friends and co-workers. You probably have a friend like me.

For further reading, see [Understanding and Preventing Off-target Movement of Herbicides](#) in the June/July 2021 issue of this newsletter and [Is it Spray Drift and What Do I Do?](#) in the July/August 2020 issue.

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