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THE PURDUE LANDSCAPE REPORT

In This Issue

Boxwood blight found in Indiana

(Tom Creswell, creswell@purdue.edu)

The DNR Division of Entomology & Plant Pathology has discovered that a shipment of boxwood plants infected with boxwood blight was shipped to Indiana in May.

This is important because boxwood blight (*Calonectria pseudonaviculata*) is a fungal disease that infests members of the popular Buxaceae family, and is often transported through the nursery trade. Hosts include Buxus (boxwood), Pachysandra (Japanese spurge) and Sarcococca (sweetbox).

In total, 23 stores in Indiana received infected material in early spring (particularly “Graham Blandy” cultivar), and it’s possible that members of the public inadvertently purchased some plants.

The fungus, which can lay dormant in drier conditions, can be found on all above-ground portions of the plant and presents itself as dark leaf spots. It causes rapid defoliation, which typically starts on the bottom of the plant and moves toward the top. This fungal pathogen can move through sporulation in water and from dropped leaves. As a result, infection can spread to surrounding plants from a single infected plant.

If you suspect one of your plants shows signs and symptoms of boxwood blight, please call (866) NO EXOTIC (866-663-9684) use the information at dnr.IN.gov/entomolo.

For more information on this pathogen see the following link extension.purdue.edu/extmedia/BP/BP-203-W.pdf

A DNR inspector found the plants at a national chain home and garden store in early October. The shipment originated at a nursery in Oregon. It was also sent to stores in 11 other states.

Upon confirmation of boxwood blight on these plants by the Purdue Plant and Pest Diagnostic Lab, the DNR required that the chain remove all boxwood from their shelves for disposal and that the stores mitigate the area through disinfection to ensure that the pathogen is no longer present and able to infect further shipments of plants.

The DNR is currently surveying for boxwood blight in Indiana. To date, the DNR has not found the pathogen, except for a few interceptions like this one.

To view all DNR news releases, please see dnr.IN.gov.

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Preparations to Prevent Southwest Injury

(Kyle Daniel, daniel38@purdue.edu)

The time is now to start protecting your trees! Now that your ears are perked up, let’s talk a bit about Southwest injury on trees.

Bark cracking (Fig.1) is a phenomenon that occurs in many species of trees and can have many causes. One of the most common types of bark cracking is termed Southwest injury. Southwest injury occurs during the winter months on the lower section of the trunk on the southwest side. This happens when there is a sudden temperature drop, for example, the sun going behind a cloud during the winter. The freeze-thaw cycle happens very quickly when there is a change from very warm to cold conditions, which results in a crack. If there is a snow pack, the reflection of sunlight on the bark will actually increase the temperature in the bark (Fig.2).

Figure 1. Bark cracking due to Southwest injury.


Figure 2. Snow can increase the reflection of sunlight to the tree, thus increasing the likelihood of Southwest injury.

Usually Southwest injury occurs on thin-barked trees, such as *Acer* spp., *Cercis* spp., *Malus* spp., and many others (Fig. 3). A thin-barked tree lacks the amount of cork cells in thicker-barked trees, thus allowing the vascular tissue to be located very close to the bark. Thick bark trees tend to be more resistant to cracking due to a greater lag in the freeze/thaw cycle. Trees that are under stress due to environmental factors, herbicide injury, and/or insect and disease are more susceptible to cracking.


Figure 3. Bark cracking on thin-barked species, such as maple, is common due to Southwest injury.

No matter the initial cause of the crack, the common denominator of a crack in the bark is a pre-set wound. The freeze-thaw cycle during the cold months causes the point of injury to expand and contract. Like with your vehicle windshield, a small point of injury in bark will expand and contract due to sudden heating or cooling, thus causing a large crack.

Any type of cracking that occurs, originates from a point of injury, such as a pruning or other mechanical injury. These are horizontal cracks that can range from <1" to the entire length of the trunk, though are usually localized near the bottom of the trunk (Fig. 4).

Figure 4. Southwest injury typically causes cracking up the trunk from close to the root flare.

Once trees are greater than about four inch caliper, the likelihood of Southwest injury is diminished. On trees four inches or less, tree guards (also called tree wraps) should be installed over each trunk.

White tree guards may help prevent this from occurring due to the reflection of the sun, preventing overheating on the bottom of the trunk (Fig. 5) In order to prevent cracking, try to prevent any type of mechanical damage that could cause cracking in the winter. Bark cracks become visible most often during the late winter/early spring. Tree guards should be removed in the spring, because the guards become a problem with disease due to moisture within the guard.

Figure 4. White tree guards can help minimize Southwest injury by reflecting sunlight. Joseph OBrien, USDA Forest Service, Bugwood.org.

In some circumstances a healthy plant may heal, partitioning off the damaged area, but the bark on a plant under stress, due to drought, herbicide damage, etc., may last the entire life of the tree.

Spotlight on Weeds: Common Chickweed

(Aaron Patton), (Leslie Beck) & *(Kyle Daniel, daniel38@purdue.edu)*

Biology: Common chickweed (*Stellaria media*) is a winter annual broadleaf weed. In lawns, it forms dense, prostrate patches throughout North America, but can grow relatively tall in the landscape. Common chickweed germinates from seed in late summer or early fall. However, germination timings can vary throughout the year if conditions are shady, and moist enough.

Figure 2. Common chickweed has a pointed apex at the end of the leaf.

Identification: Common chickweed is predominantly a winter annual broadleaf weed that can be identified by its prostrate growth habit and leaf shape. Common chickweed leaves are located opposite each other on stems that may be hairy on older portions and smooth on newer growth. Additionally, leaves are light green, smooth, and oval- to egg-shaped that come to a point at the apex. Leaves located on the upper portions of the stems have no petioles (leaf stems) while leaves located lower on the stems have long, sparsely-hairy petioles. Common chickweed produces small clusters of white flowers with five daisy-like petals in early spring. Flower petals have a deep centered lobe that makes it appear as though there are ten petals. Common chickweed can often be mistaken for mouse-ear chickweed; however, mouse-ear chickweed leaves are more oblong in shape and are densely covered in soft hairs.

Figure 2. Common chickweed flowers resemble daisies.

Cultural control: Mulching at a depth of three inches will discourage germination from occurring on many species in the landscape. The presence of chickweed can be an indication of a cultural problem in the landscape or turf. For example, it thrives in compacted soils that are consistently moist or poorly drained. Its presence might indicate that the soil should be cultivated and irrigation practices should be adjusted to reduce excess moisture in the soil. Common chickweed also thrives in shady conditions. Hand-pulling common chickweed when populations are small may also be an effective cultural weed management tool.

Figure 3. Mulch in combination with herbicides can provide excellent weed control.

Biological control: None known for specific use in common chickweed. There are some organic postemergence herbicides available for turf weed control such as pelorgonic acid (Scythe), acetic acid (5% or greater solutions), and medium-length fatty acids (Eugenol); however, these products do not differentiate between the target weed and the vegetation (non-selective). As a result, these products are often used as spot treatments for weed control in parking lots, along fence rows, and in other bare-ground areas.

Other organic products that contain iron HEDTA (FeHEDTA), may be used to manage common chickweed; however, their ability to control common chickweed has not been effectively researched.

Figure 4. Seedlings of common chickweed can have a 'succulent-like' leaves.

Chemical control: Though a preemergence herbicide program should be your primary chemical control strategy, there are control options for common chickweed that include both pre- and postemergence options. Preemergence herbicides such as Gallery 75 (isoxaben), Pendulum (pendimethalin), Barricade (prodiamine), and Dimension (dithiopyr) are available for use in home lawns; however, it is important that they are applied prior to common

chickweed germination in late summer/early fall.

Postemergence control can be achieved with repeat applications of glyphosate and glufosinate.

Most of these herbicides require supplemental applications for adequate control especially in spring when common chickweed plants are larger.

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