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Issue 1, April 8, 2025

Arkansas Plant Health Clinic Newsletter

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Turf: Large Patch

Large patch is becoming active again in turf, leaving winter dormancy. If you had a problem last season with large patch disease in your lawn, now is the time to treat for it this season. Large patch is one of the most important diseases of turf and is a disease that we see very frequently in the clinic. The causal agent is the fungus *Rhizoctonia solani.* It attacks zoysiagrass, bermudagrass, St. Augustinegrass, and centipedegrass. *Rhizoctonia solani* prefers moderate temperatures and a wet environment, so it causes the most damage in spring and fall. Stolons and basal leaf sheaths develop water-soaked, black to reddish brown lesions. Irregular circular patches develop in the lawn that may be from several feet up to 20 feet in diameter. Sometimes a smoke-colored or orange halo may be observed at the margins of the patch. Diseased shoots are easily detached from their points of attachment. Roots are discolored but not rotted. In the most badly affected turf, entire lawns may be blighted. Symptoms may start to slowly disappear during the growing season as surviving tillers fill in the killed spots, but the disease symptoms tend to become more obvious in the summer when the fungus is dormant, but the weakened turf looks worse due to the heat stress. The dormant fungus then becomes active again in the fall in the same location.

Night irrigation, shade, and excessive amounts of nitrogen increase both the severity and incidence of large patch disease. Do not apply nitrogen in early spring or after August 15. Nitrogen can start to be applied around May, starting with a quick-release nitrogen source to help the turf successfully regrow in diseased patches. For the rest of the summer, use slow-release nitrogen fertilizer. No more than two pounds of nitrogen per 1,000 square feet for zoysiagrass or four pounds of nitrogen per 1,000 square feet for bermudagrass should be applied per growing season. Soil testing is useful for determining nutrient and pH levels. Avoid night watering. Good drainage is essential for a healthy lawn. Turf should be de-thatched during the summer if thatch accumulates to more than 0.5 inches thick.

Fungicides may be applied once in the spring between March 15 and April 15 (or during spring green-up when 5-day average soil temperatures at depths from 0-4 inches deep are consistently above 55°F), and again in the fall between September 10 and October 10 (or when 5-day average soil temperatures at depths from 0-4 inches deep drop below 70°F). Heritage 50 WG (azoxystrobin), Prostar 70 WP (flutolanil), Eagle 40 WSP (myclobutanil), Trinity 2.21 SE (triticonazole), and Bayleton 50

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WSP (triadimefon) are labeled for commercial use on large patch. Homeowners may use Spectracide Immunox Fungus Plus Insect Control for Lawns; Scotts Disease EX Lawn Fungicide; or Bonide Infuse Systemic Disease Control - Lawn and Landscape. Follow the label for timing and rate. For more information, please see the UADA fact sheet on large patch (FSA7527).

Large Patch on Zoysiagrass

Photo by Michelle Mobley, University of Arkansas Cooperative Extension

Large Patch on Zoysiagrass

Photo by Jim Robbins, University of Arkansas Cooperative Extension

Large Patch on Zoysiagrass

Photo by Herb Ginn, University of Arkansas Cooperative Extension

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Evergreen Shrubs: Winter Injury

The clinic has been receiving many shrub samples exhibiting symptoms of winter injury. Winter injury symptoms include brown/bronze/bleached evergreen foliage (just at the tips/margins or throughout the whole leaf or needle), defoliation of affected leaves or needles, and split/cracked stems. Often the section of the shrub that faces south/southwest will be the worst affected.

Why does winter injury happen to evergreen shrubs? Even though evergreens are fairly cold tolerant, rapid and large fluctuations in temperatures can cause significant harm. An unusually warm fall followed by a sudden drop in temperature as winter arrives or warm and sunny winter days right before a cold front are both examples of conditions that could lead to winter injury in evergreen shrubs. Rapid drops in temperature are devastating to many plants, whether it's in the fall, before plants have had a chance to harden off or in the spring, when they have lost their hardening and the sap has started to rise in the stems. Plants are more susceptible to winter injury if they are too dry when low temperatures arrive. We had a dry fall, so many plants in the state were water stressed entering into the winter season. As a result, winter injury symptoms have been more pronounced. Winter winds can also increase water loss from leaves or needles (a process called transpiration). Plants cannot uptake more water to replace the water lost from transpiration when the ground is frozen, which can result in damaged leaves/needles.

The best way to prevent winter injury in evergreen shrubs is to ensure that the shrubs are as healthy as possible going into the winter. Make sure that shrubs are getting enough water throughout the fall. Do not prune in late summer or early fall as pruning may encourage a flush of new growth that will not be hardy enough to survive the winter. Save the pruning for mid-spring. For this same reason, avoid late season fertilization of shrubs. Be mindful of where you are planting your evergreen shrubs. If possible, plant the shrubs in an area that provides some protection from winter winds. When there is an expected sudden dip in temperatures, covering the shrubs with a frost blanket during the cold snap can help to insulate the shrubs and reduce cold damage.

The extent of winter injury is often hard to determine until warmer weather arrives, so we encourage people to be patient and take a wait-and-see approach as winter transitions into spring. Some pruning of winter-injured plants will be required. Since we are well into spring and the evergreens have started to green up with new growth, now is a great time to examine shrubs and determine which sections are dead and should be pruned back.

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Extreme Winter Injury on Boxwood

Image courtesy of Gerald Klingaman

Winter Injury on Magnolia

Photo by Jason Pavel, University of Arkansas Cooperative Extension

Winter Injury on a Stem

Photo by Clemson University – USDA Cooperative Extension Slide Series, Bugwood.org

Winter Injury on Foliage

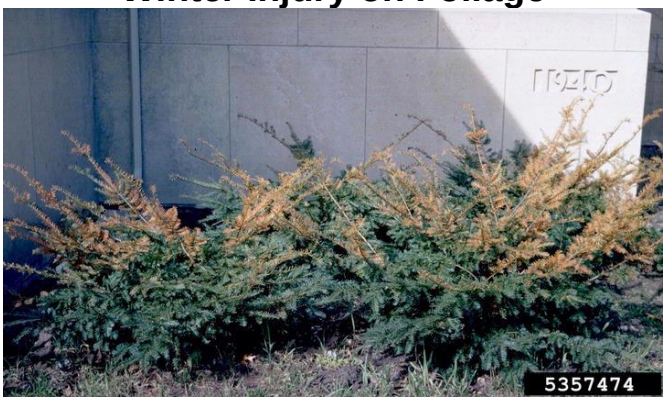

Photo by Howard F. Schwartz, Colorado State University, Bugwood.org

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Conifers: Pestalotiopsis Tip Blight

The clinic has received several arborvitae samples recently that have been diagnosed with Pestalotiopsis tip/needle blight (caused by *Pestalotiopsis* sp.). Pestalotiopsis tip/needle blight commonly impacts conifer plant tissue that has already been stressed (from winter and/or wind injury, drought, other pathogens/insects, shock from transplanting, etc.). Additionally, this fungal pathogen loves wet, humid weather, which typically occurs in the spring. Therefore, the best way to prevent this disease is to promote the overall health of the conifer. A copper fungicide can be used preventatively (it is not curative), but copper fungicides are usually recommended in a nursery setting and not a landscape/home setting. Prune out and discard the affected limbs when it is dry. Pruning when wet will only help spread the spores of the pathogen.

Pestalotiopsis Tip Blight on Arborvitae

Photo by Bruce Watt, University of Maine, Bugwood.org

Pestalotiopsis Tip Blight on Arborvitae
(with black, pimple-like fruiting bodies visible on leaves)

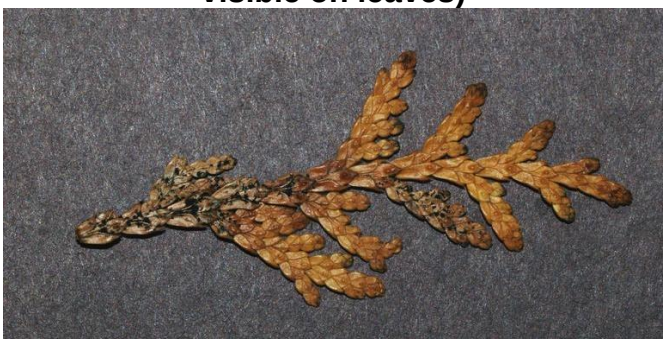

Photo by Bruce Watt, University of Maine, Bugwood.org

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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