DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Sherrie Smith
Rick Cartwright

SPDN
Southern Plant Diagnostic Network
Issue 21-July 22, 2010

Arkansas Plant Health Clinic Newsletter

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Boxwood

Boxwood Blight

Boxwood is a very popular shrub, due to their versatility in the landscape. They prefer a partially shaded location, but will grow in full sun, are evergreen, and can be sheared to the desired shape and size. Soil fertility is not critical if soil pH is 6.5-7.0. They are intolerant of heavy, wet soils. The most common damage we see on boxwood is winter damage caused by exposure to winter sun and wind. The most common disease problem found on samples submitted to the Plant Health Clinic is Pseudonectria canker/Volutella leaf and stem blight, caused by *Pseudonectria rousseliana*, imperfect *state Volutella buxi*. In the spring, certain branches do not put on new growth. Leaves on infected branches become tan-colored, lie close to the stem, and turn upward. Bark at the base of the infected stem has gray to black discoloration under the bark. Under humid conditions, pink to salmon orange spore-producing masses called sporodochia can be seen covering stems and leaves. Spores resemble Phomopsis spores, are clear-colored and ellipsoid. Control consists of removing infected branches as soon as they are seen, cleaning up all leaves caught within the shrub and on the ground, and the application of copper-based fungicides or lime sulfur during the dormant season before new growth starts in the spring. It is very helpful to maintain a proper water regimen during the entire year to reduce stress. Boxwoods need watered during the winter if it is a dry winter. This is true of all evergreens.

Boxwood Blight-*Volutella buxi*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Boxwood Blight-*Volutella buxi*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Boxwood Blight spores-*Volutella buxi*

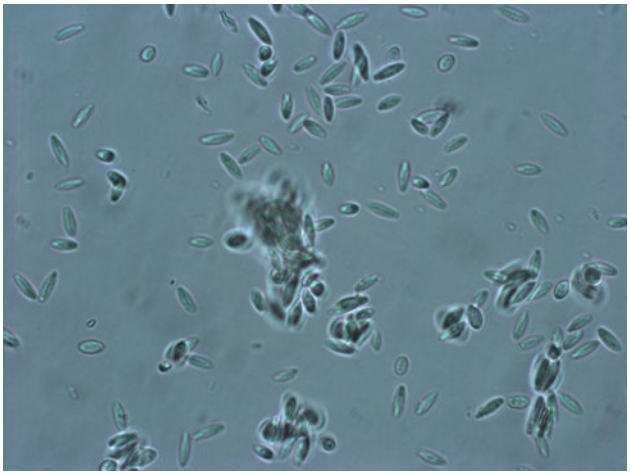

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Boxwood Macrophoma

Another fungus frequently seen on boxwood is *Macrophoma candollei.* Numerous black fruiting bodies can be seen as dark specks on dead leaves. Spores are 36-40µm x 10-11.5µm, clear colored and densely granular. This is a secondary colonizer of dead leaves, and its presence indicates that the plant is stressed by other diseases or environmental actors. No controls for *Macrophoma* are recommended.

Boxwood Macrophoma spores-*Macrophoma candollei*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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Boxwood Macrophoma-
Macrophoma candollei

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Boxwood Macrophoma-
Macrophoma candollei

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Blackberry

Cane blight, caused by *Leptosphaeria coniothyrium*, anamorph *Coniothyrium fuckelii*, only affects canes that have been wounded in their vegetative year. Leptosphaeria causes vascular damage to the cane during the winter, and then bud death, lateral shoot wilt, or cane death the following spring. Early in the year, there are no external symptoms on the primocanes, but brown stripe lesions under the epidermis can be observed in the fall by scraping back the epidermis. During the winter lesions become visible as dark red to purple areas around wounds, with irregular dark purple borders. Centers of these lesions eventually turn grayish. During the winter these lesions may entirely girdle the stem, causing cane death. By spring the epidermis often develops a silver color. Immersed black fruiting bodies may be found on the diseased tissue, particularly on stubs of old fruiting canes. Leptosphaeria requires a wound or tissue injury to enter the vascular tissue. This can occur from canes rubbing against one another, or from mechanical injury caused by pruning, harvesting, or cultivation. Control must be multi-pronged. Avoid overhead irrigation in order to minimize splash dispersal of spores. High volume sprays of systemic fungicides before, during, and immediately after harvest gives good control. Pristine, or Abound or Cabrio are good choices. In severe cases, moving to biennial cropping for several seasons, in which no primocanes are present the year in which fruit is picked gives good control by avoiding the disease.

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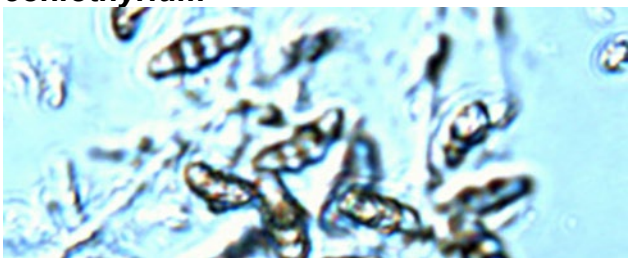
Blackberry Cane Blight-*Leptosphaeria coniothyrium*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blackberry Cane Blight asci and ascospores-*Leptosphaeria coniothyrium*

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Blackberry Cane Blight ascospores-*Leptosphaeria coniothyrium*



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Euonymus

Anthracnose of euonymus is caused by the fungus *Colletotrichum gloeosporioides.* Symptoms on leaves and stems are small round spots with light centers and a darker brown to red border. Spots may coalesce to blight large sections of leaves. This can cause premature defoliation and twig dieback. Older lesions may develop tiny cracks. The black fruiting bodies of the fungus may be observed with a hand lens as small black pustules. The disease is most found during cool, wet springs. Variegated varieties of euonymus tend to be more vulnerable to anthracnose. Control anthracnose by cleaning up and destroying fallen leaves, avoiding overhead irrigation, and opening the leaf canopy to improve air circulation. Ornamental fungicides containing Chlorothalonil, or Myclobutanil or Propiconazole are useful in control of Euonymus anthracnose.

Euonymus Anthracnose-
Colletotrichum gloeosporioides

Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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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.