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BOXWOOD BLIGHT

Boxwood blight, a destructive fungal disease of boxwood in the United States, was first confirmed in Connecticut in 2011. This disease attacks leaves and stems of boxwood, which causes significant defoliation and has devastating effects on boxwood in nurseries and landscapes (Figure 1).

SYMPTOMS AND DIAGNOSTICS

The initial symptom of boxwood blight on leaves appears as light brown spots with darker borders, and then the infected tissues turn to brown blotches when many lesions coalesce (Figure 2). The symptom of black streaks on green or woody stems is the most characteristic feature of the disease (Figure 2). A severe infection on leaves and stems can cause a severe blight and sudden defoliation (Figure 1). During periods of high humidity, white sporulation is



Figure 1. Browning of leaves and sudden defoliation caused by boxwood blight

noticeable on infected stems and the lower surface of leaves (Figure 3). The disease also appears on pachysandra and cause small yellow or light brown spots on leaves (Figure 4).

DISEASE DEVELOPMENT

The causing agent of boxwood blight, *Calonectria pseudonaviculata*, can infect most species in the family Buxaceae, such as *Buxus* spp., *Sarcococca* spp., and *Pachysandra* spp. The fungus survives as mycelium in infected stems and leaves. Microsclerotia, resting fungal structures, remain viable for several years in the soil. Sticky fungal spores on infected leaves or stems can be dispersed by wind-driven rain and splashing irrigation water. The pathogen is also disseminated through pruning tools, equipment, vehicles, cloth,



Figure 2. Black and dark brown spots on stems (red arrow) and leaves (yellow arrow)



Figure 3. Fungal sporulation (arrow) on the lower surface of a boxwood leaf

and shoes. Movement of infected plants and plant materials is the primary means of long-distance transmission of the disease. High humidity and leaf wetness are required for spore germination and infection. The temperature range for disease development is 41-86 °F, and the optimum temperature is 75 °F. Warm and humid weather conditions favor the disease development.

DISEASE MANAGEMENT

Resistant species and varieties: Use of resistant or less susceptible varieties is a reliable and economic way to control this disease. For more information of resistance to boxwood blight, please read the linked fact sheet. [Susceptibility of Boxwood Species, Cultivars, Hybrids and Accessions to Boxwood Blight.](#)

Disease-free plants: Once boxwood blight is introduced to a landscape, it is very difficult and costly to control it. Therefore, use of disease-free boxwood plants is the most important step to prevent the disease. Prior to installation of new boxwood, hold the plants in an isolated area for at least four weeks to make certain the plants are pathogen-free because symptoms could be delayed on resistant boxwood, on the plants treated with fungicides, or due to unfavorable environment conditions.

Inspection: Routinely monitor and inspect newly planted and established boxwood.

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Figure 4. Brown spots (arrow) on pachysandra leaves

Any boxwood with suspicious symptoms should be sent to CAES for diagnosis and confirmation.

Cultural practice: Once boxwood blight is confirmed, remove and destroy all symptomatic and adjacent non-symptomatic boxwoods within 10 feet. Remove plant debris by vacuuming, sweeping, and raking. Do not compost any infected boxwood materials. Apply new mulch to the ground surface after plant debris are removed. Wash and disinfect gardening tools using 70% alcohol or 1:10 dilution of household bleach. Avoid overhead irrigation and do not work with plants when they are wet. Keep adequate space between plants for a good air circulation.

Fungicide application: Although no fungicides have been registered for boxwood blight, mancozeb, chlorothalonil, thiophanate-methyl, and propiconazole may be used to against the disease. Fungicide treatments are preventative, but not curative. Linked please find more information of [Fungicides for Boxwood Blight Management in Connecticut.](#)

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