

Kansas Plant Pest Alert

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Boxwood Blight

What is it?

Boxwood blight is a destructive disease caused by the fungus *Calonectria pseudonaviculata*, first detected in the United States in 2011 and Kansas in 2014. Early detection and eradication work are ongoing. In addition to boxwood, the disease attacks pachysandra, sarcococca, and other species in the family Buxaceae. Proliferation of the disease causes severe defoliation and leads to crop loss in nurseries and planted landscapes.



The most common symptoms of boxwood blight are brown leaf spots with dark borders and black streaks on the stems.

Symptoms

The first symptoms are light brown leaf spots with dark borders, which coalesce and form brown patches. The most characteristic symptoms are black streaks on green and woody stems. These symptoms in conjunction defoliate the plant, causing a blight. In conditions of high humidity, white growth may be visible on the undersides of the leaves. On pachysandra, leaf spots are usually yellow or light brown.

How is it different from Volutella blight and winter damage?

Boxwood blight is easily confused with Volutella blight and winter damage. However, winter damage and Volutella blight often cause leaf bronzing and boxwood blight does not. Also, winter damage shows up in December-March, while boxwood blight develops in spring and fall during moderate temperatures. Both boxwood blight and Volutella blight cause stem cankers, but Volutella blight causes bark to become loose on the woody branches. Boxwood blight also causes defoliation while leaves of a plant affected by Volutella blight frequently stay on the plant. Lastly, Volutella blight develops pink fungal growths on the undersides of the leaves, whereas boxwood blight causes white growth on the undersides of the leaves.



In severe cases, boxwood blight causes complete defoliation of plants.

Disease Development

The fungus produces mycelium, fungal spores, and resting spore structures called microsclerotia. Spores and microsclerotia are disseminated by wind-driven rain, irrigation water, pruning tools, equipment, vehicles, cloth, and shoes that are not sanitized properly. The fungus may also be moved long distances via infected plants. High humidity and wet leaves are required for spore germination and infection. Overhead irrigation, heavy rains, and heavy dew keeps leaves wet, favoring disease activity. Ideal temperature range for pathogen development is 41-86 °F with optimal temperature 75-77 °F. Microsclerotia can remain viable in the soil for several years.

Best Management Practices

Inspect host plants on arrival. Hold them in an isolated area for at least four weeks to allow symptoms to develop on plants that may be carrying the disease. Monitor new and established plantings. Avoid overhead irrigation and promote good air circulation between plants. Disinfect pruning tools between plants using 70% alcohol or 10% bleach solution. If boxwood blight is found, destroy plants and any debris by bagging and disposing in trash, not composting. Remove debris from the area by raking, sweeping, and vacuuming. Use preventative fungicides on remaining plants. Replace with non-host species.

If boxwood blight is suspected, contact your local county Extension office or the Kansas State University Plant Diagnostic Lab for testing.