

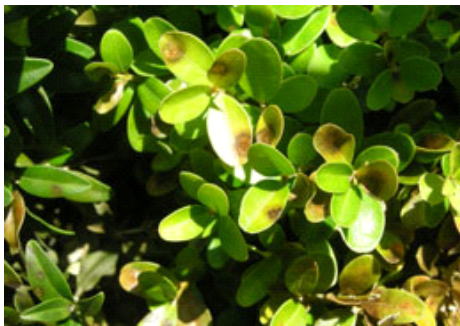
GROWERTALKS

Pest Management

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The New Battle of Boxwood Blight

Margery Daughtrey



Boxwood, one of the most traditional of holiday greens and most dependable of shrubs, now faces a new disease that is suddenly challenging plants in nurseries and landscapes in many parts of the country. All of the species and types of boxwood used horticulturally are prey to the disease, caused by a fungus called *Cylindrocladium buxicola* (or *C. pseudonaviculatum*). This fungus blights the foliage dramatically under warm, wet conditions.

pictured: The first symptoms of boxwood blight are round leaf spots about .25 in. across that are usually black or dark brown.

English boxwoods are perhaps the most susceptible, partly because of the extraordinary density of their canopy. Common or American boxwood is also quite prone to the disease. Japanese, Korean and littleleaf boxwood are hosts as well. *Buxus microphylla* cultivars have, for the most part, shown less susceptibility than English and common boxwood in European trials, although *B. microphylla* Midget is extremely prone to the disease.

In addition to the boxwoods, there are some close relatives in the same plant family that are also susceptible to the new blight: pachysandra will show brown *Cylindrocladium* leaf spots with yellow haloes, and sarcococca, a small evergreen shrub, has been infected experimentally. Although other plants will not be troubled by this new disease, it's causing immense concern where rambling herds of deer determine which plants are successful—boxwoods are considered fairly essential to garden design in these areas.

This boxwood blight is new to North America, but has been troubling gardeners and nurserymen in the UK since the mid-1990s and has been seen in Europe and New Zealand. Last fall, the first U.S. findings of the disease were made in North Carolina and Connecticut, and was seen soon after in at least eight others. Efforts have been made to eradicate it wherever it has been found. The American Nursery and Landscape Association (ANLA) realizes the importance of the disease, and has joined forces with the Horticultural Research Institute (HRI) and others to support research on the management of boxwood blight.

Boxwood blight infection is often recognized only after it has caused significant injury. The first symptoms are round leaf spots about .25 in. across; these are usually black or dark brown, and sometimes have lighter centers. The tips of leaves are often killed back and the entire leaf can be darkened. Under conditions favorable to disease development, the disease will progress until large numbers of leaves drop from the plant, leaving bare branches that often show narrow black cankers about half an inch long. Symptoms of less serious diseases caused by fungi such as *Volutella*, *Macrophoma* and *Fusarium* species—or simply physiological stress—can be very similar, so you should seek the help of a plant disease diagnostic lab if you're concerned that your boxwoods may have the new boxwood blight disease. The blackening of the tissue and the speed at which the blight develops help to distinguish this disease from the other common stress-related boxwood disease problems, which are known to develop much more slowly.

Boxwood blight is most likely to appear in nurseries or gardens where new boxwoods have been brought in within the past two seasons. Movement of infected plants is the primary way the pathogen is spread. The fungus also spreads short distances by splashing from rain or overhead irrigation, and likely is also carried on shears and workers' hands or clothing. New plants can be a source of infection for large, valuable historic garden specimens. It may be necessary to destroy small infected boxwoods—or pachysandra—in order to protect specimens on the same property. Landscape gardeners should practice very careful sanitation when working with boxwoods on multiple properties.

Some Important Hosts of the New Boxwood Blight

Common or American boxwood, *Buxus sempervirens*

English boxwood, *Buxus sempervirens* Suffruticosa

Korean boxwood, *Buxus sinica* var. *insularis*

Littleleaf boxwood, *Buxus microphylla*

Japanese boxwood, *Buxus microphylla* var. *japonica*

Japanese pachysandra, *Pachysandra terminalis*

Sweet box, *Sarcococca* spp.

In nurseries, separating plants from different sources by 50 yards or more will reduce the chance of spread from irrigation or rain splash, and facilitate eradication efforts if disease is detected in a carefully-monitored block. Nurseries will need to bag and dispose of entire plants and collect all leaf debris to manage the disease. In the landscape, if symptomatic areas are small, therapeutic pruning may be worth a try, combined with fallen leaf removal and adjustments in watering practices to reduce leaf wetness as much as possible. Fungicides registered for landscape or nursery applications to boxwood would be the appropriate follow-up after detection in either nursery or landscape environments. The fungicides work as protectants rather than as eradicants.

Weather will be an extremely important factor in determining how serious boxwood blight will become once it's introduced to an area. At cooler temperatures and shorter periods of leaf wetness, only young leaves can be infected. When temperatures are warmer, ranging roughly from the low 60s to the low 70s during the leaf wetness period, extensive spotting can occur on both young and mature leaves, according to trials done in Belgium. The longer the leaves are wet, the more infections can take place.

Members of the green industry should be well aware of this disease and help the public to understand it. Protecting our old historic boxwoods and preserving the use of this shrub for its contributions to landscape

design will depend upon how well we can learn to manage this new disease threat. **GT**

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