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Dr. Yonghao Li
Department of Plant Pathology and Ecology
The Connecticut Agricultural Experiment Station
123 Huntington Street, P. O. Box 1106
New Haven, CT 06504

Phone: (203) 974-8601
Fax: (203) 974-8502
Email: Yonghao.Li@ct.gov
Website: www.ct.gov/caes

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VOLUTELLA BLIGHT OF BOXWOOD

Volutella blight, also called Volutella canker, is a common fungal disease of boxwood (*Buxus* spp.). The disease affects leaves and stems, which can cause extensive browning of leaves and diebacks in nurseries and landscapes. The fungus is considered a weak and opportunistic pathogen. So, winter injury, excessive insect feeding, or poor root conditions can make plants more vulnerable to the disease.

SYMPTOMS AND DIAGNOSTICS

On leaves, the initial symptom of the disease is chlorosis that will later turn bronze or straw color. When young shoots are infected, brown, or black streaking is noticeable on the stems (Figure 1). Severe damages on infected stems can result in brown patches on the canopy (Figure 2). In the later stages, infected stems may show loose or peeling barks (Figure 3). In moist conditions, orange- or salmon-colored fungal fruiting structures (sporodochia) are noticeable on stems and the lower surface of leaves (Figure 4). Infected leaves can be attached on affected stems for few months, and then they gradually fall off.

DISEASE DEVELOPMENT

Volutella blight of boxwood is caused by the fungus *Volutella buxi*. Most boxwood species and cultivars are susceptible to the disease. The pathogen survives on infected plants or fallen leaves on the ground.

Figure 1. A light brown streaking (arrow) on a twig

Figure 2. Diebacks in small patches on the plant affected by Volutella blight

Figure 3. Affected branches with loose and peeling bark

Figure 4. Orange fungal fruiting bodies on the stem and leaf

Fungal spores are dispersed by splashing water, wind, or pruning tools. Germinated conidia penetrate plants through wounded or weakened tissues. Boxwood plants that are stressed from drought, excessive water, or winter injury are vulnerable to the disease. Optimal environmental conditions for disease development are warm temperature between 68 and 77 °F and high humidity (> RH 85%).

MANAGEMENT

Cultural practices: Prune and destroy diseased and dead branches. Infected branches should be cut at few inches below the transition between healthy and symptomatic tissues. Sanitize pruning tools by dipping them in 70% alcohol between each cut. Avoid pruning or sheering boxwood when plants are wet. If necessary, provide irrigation during dry periods in the summer and before soil freezing to prevent drought stress and winter injury, respectively. Avoid overhead sprinkler irrigation to reduce humidity in the canopies. Boxwood should be planted in well-drained areas. Avoid planting boxwood too deeply. Maintain good air circulation by adequately spacing plants and by thinning dense canopies. Mulching will maintain soil moisture and aid root development.

Resistant species and cultivars: Although no boxwood cultivars are highly resistant to Volutella blight, 'Green Velvet', 'Green Mound', 'Pincushion', and 'Green Mountain' are less susceptible than the most susceptible 'Green Gem'.

Fungicide application: Applying fungicides may prevent the disease and reduce sporulation on infected plants, but will not cure the diseased parts. So, fungicide applications should be started early to protect new growth. Due to the dense and compact growth of boxwood, thorough spray coverage on branches and foliage is critical to achieve effective disease control. Fungicides that are registered for the disease include copper-based products, propiconazole, thiophanate-methyl, chlorothalonil, and mancozeb. Be sure to read and follow all label instructions of the fungicide that you use.

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