

Boxwood - Volutella Blight

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Volutella blight disease is caused by the fungus *Volutella buxi* (*Pseudonectria buxi*). This disease is causing extensive losses in commercial nurseries that produce boxwood (*Buxus* spp.) in several European and North American countries and China (1, 2, 3 and 4). American (common), Japanese, Korean and English boxwood species are susceptible to this disease.

Symptoms

Symptoms become visible in the spring with poor growth on individual shoots or the entire plant. Affected twigs and leaves turn from green to red, then brown and finally to tan color (Fig. 1). Fungi usually develop underneath the affected leaves and stem parts. In those sites waxy, salmon pink colored fruiting bodies (sporodochia) can be observed using a hand lens (Fig. 2 and 3). Affected leaves turn upward and lie close to the stem. Young boxwood leaves are considered to be more susceptible to the disease than old leaves. Black streaks on petioles and stems are another symptom that is observed in some of the infected plants. In later stages the bark becomes loose and discolored. In wet conditions stunted growth of the plants and leaf drop can be observed due to Volutella blight disease. Boxwood plants become more susceptible to this pathogen when subjected to wounds or winter injury.



Fig.1. Volutella blight of boxwood

Defoliation and dieback in boxwood plants can also occur because of salt damage, winter injury, boxwood leaf miner and various root rots and can be misidentified as *V. buxi* infection.



Fig. 2 and 3. Salmon pink colored fruiting bodies of *Volutella* blight.

Control

Fallen leaves and diseased leaves should be removed from plant surroundings. Plants should be thinned to improve the light penetration and air circulation. Diseased branches should be pruned out a few inches below the transition zone (area between dead stem tissue and healthy green tissue). Pruning equipment should be sanitized once they are used to prune an infected plant. Irrigation should be well planned to minimize drought stress but avoid high humidity for long periods. Plants should be grown in well-drained soil or media with pH between 6.8-7.5. Light shade (20%) could be used to reduce injuries from seasonal extremes. Fungicide application should start in spring and continue until late spring. Even during the rainy seasons in fall, fungicides need to be sprayed to protect late summer growth (Table 1). Fall fungicide application may be necessary to protect late summer growth if the weather is rainy. Thorough spray coverage of the branches and foliage is critical for effective disease management.

Table 1. Selected lists of fungicide groups that can be used to prevent *Volutella* blight.

Active ingredient	FRAC code	Notes
Chlorothalonil	1	Spray at 7-day intervals on cuttings and liners and 7- to 14-day intervals on container stock when conditions favor disease development.
Chlorothalonil + Thiophanate-methyl	1 + M5	Apply at first sign of disease.
Copper hydroxide	M1	Begin application at the first sign of the disease and repeat at 7- to 14-day intervals. Use higher rates and shorter spray intervals under severe disease conditions.
Copper sulfate pentahydrate	M1	Spray for thorough foliage coverage. Re-spray rates and intervals vary with severity of disease and adversity of environmental conditions. Under heavy disease conditions, intervals can be shortened to 3 to 5 days.
Mancozeb	M3	Begin spraying when plants are growing, well leafed out or at first sign of disease. Apply fungicide at 7- to 10-day intervals throughout the season as long as disease development conditions persist and as the plants grow.

References

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- 2) Bezerra, J. L. 1963. Acta Botanica Neerlandica 12:58.
- 3) Shi, F., and Hsiang, T. 2014. Eur. J. Plant Pathol. 138:763. 10.1007/s10658-013-0348-7
- 4) Shi, F., and Hsiang, T. 2014. Plant Dis. 98:1282. 10.1094/PDIS-04-14-0434-PDN

For additional information, contact your local nursery specialist office at:

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Precautionary Statement

To protect people and the environment, disinfectants should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication. Use of trade, brand, or active ingredient names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others that may be of similar and suitable composition, nor does it guarantee or warrant the standard of the product. The author(s) and Tennessee State University assume no liability resulting from the use of these recommendations.

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