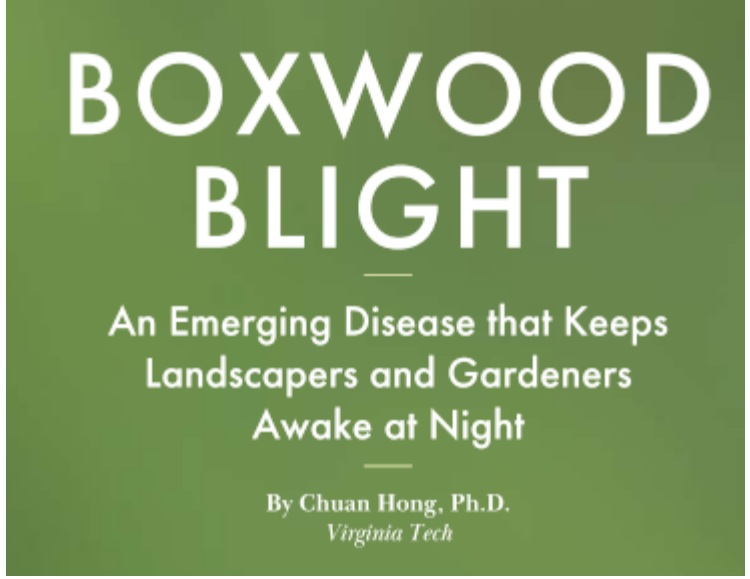


Three diagnostic symptoms:

1. Leaf spots
2. Black streaks on young stems and branches
3. Rapid defoliation

VTC

Leaf symptoms appear as small, light to dark specks that enlarge into discrete spots or diffuse blotches.

Sometimes, entire leaves may turn completely gray or black without and discrete spot if:

1. Pathogen load is high
2. During an extended period of warm and wet conditions

Black streaks on stems and branches are an indication of an advanced stage of disease development and/or favorable environmental conditions.

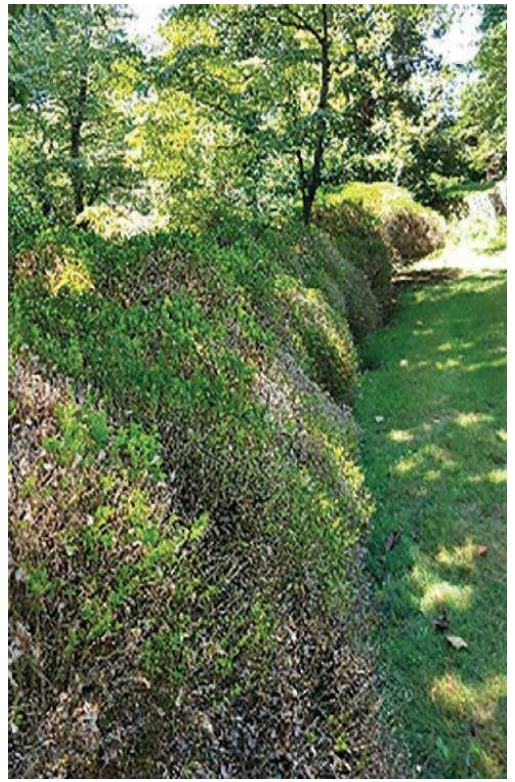
Similar stem lesions may be caused by two other fungal pathogens.

Colletotrichum theobromicola

- boxwood dieback/anthracnose
- not common in Virginia

Pseudonectria spp.

- Volutella blight pathogen
- only attacks weakened or stressed boxwood plants
- does not cause rapid defoliation



Rapid defoliation may also be caused by an insect: boxwood leaf miner.

Boxwood blight pathogens are sticky, easily attaching to pruners, other garden tools, and personal belongings, and spreading from isolated infections to the entire property and from one property to all other properties.

Fungicide Options

Currently, **effective fungicide options for home growers are limited**

Resistant Varieties

Healthy Plants

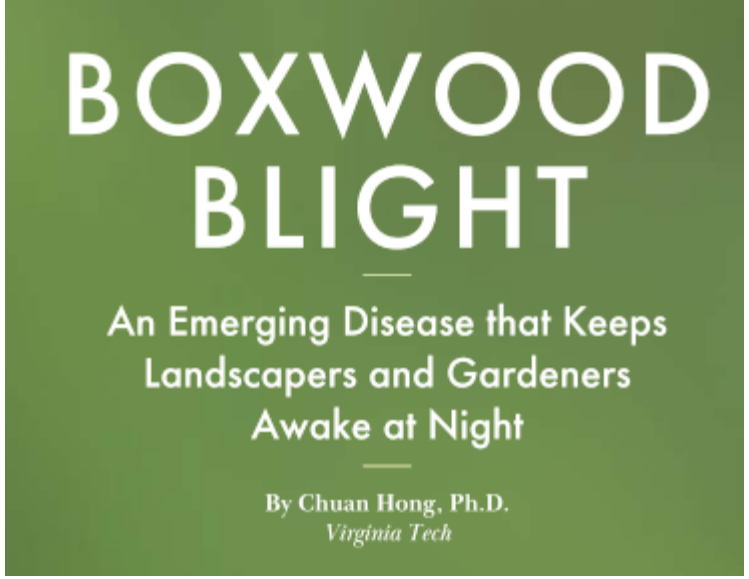
Cultural Practices Recommended to Minimize Chance of Boxwood Blight

•Purchase boxwood from nursery producers in the Boxwood Blight Cleanliness Program.

•Minimize leaf wetness and promote good air-circulation in boxwood plantings to minimize disease pressure. Examples include:
- Choose cultivars that have a more open-growth habit (e.g. *Buxus microphylla* cultivars as opposed to *B. sempervirens* 'Suffruticosa').
- Avoid overhead irrigation.
- Ensure good air circulation in plantings by providing adequate spacing between plants. In general, growers may want to avoid close spacing of boxwood and, therefore, hedges.

•Mulch boxwood plantings to reduce the spread of boxwood blight inoculum to foliage by splashing water.

•Avoid working in boxwood plantings when the foliage is wet and fungal inoculum is more likely to be spread.



Poducts containing the active ingredient chlorothalonil have been shown to be very effective in management of the boxwood blight pathogen, if used preventatively.

Active ingredient	**Brand name and manufacturer**
chlorothalonil	•Broad Spectrum Landscape & Garden Fungicide (Ferti-lome) •Vegetable, Flower, Fruit and Ornamental Fungicide (Hi-Yield) •Fung-onil (Bonide) •Ortho Max Garden Disease Control or Ortho Disease B Gon (Scotts)

Other Boxwood Pests: 2024 VT Pest Mgt Manual

Boxwood leafminer	Avermectin B1 Carbaryl Clothianidin Deltamethrin Imidacloprid see table 4.7	**Timing of pesticide treatment**: Treat in April or early May when adults are active. For imidacloprid, see "Bee Advisory Box" **Remarks**: Numerous adults can be eliminated before eggs are laid. **Biological controls**: Encourage natural predators. **Cultural controls**: Handpicking for smaller populations is effective. Plant resistant varieties. Prune foliage before adult emergence. **Related fact sheet**: https://pubs.ext.vt.edu/3104/3104-1554/3104-1554.html

Other Boxwood Pests: 2024 VT Pest Mgt Manual

	see table 4.7	
Spider mites, including: spruce mite, southern red mite, box-wood mite	*Neem Oil* *Insecticidal Soap* *Dormant Oil* *Soybean Oil* *Sulfur*	**Timing of pesticide treatment**: Treat in late April or early May and/or in September and October, except for horticultural oil, which should be used in early spring, just before new growth starts. **Remarks**: Thoroughly wet all of the foliage and stems with a full coverage spray. Use Isotox only if it contains a miticide. **Biological controls**: Encourage natural predators: lady beetles, minute pirate bugs, predatory thrips, and phytoseiid mites. **Cultural controls**: Maintain overall health of the plant. Irrigate in dry weather and avoid overfertilization. Inspect new plants for signs of mites. Knock off mites with a forceful jet of water. Can wipe leaves off by hand, clean up infested areas with soap and water. **Related fact sheets**: https://pubs.ext.vt.edu/444/444-221/444-221.html https://pubs.ext.vt.edu/444/444-235/444-235.html https://pubs.ext.vt.edu/ENTO/ENTO-42/ENTO-42.html

Volutella Blight of Boxwood

Don’t mistake this common fungal disease with Boxwood Blight

VTC

Volutella Blight of Boxwood

Volutella Blight is caused by an opportunistic fungal pathogen that attacks leaves and stems of damaged or stressed plants.

Winter injury, poor vigor, and stem wounds increase risk for Volutella blight.

All species and cultivars of boxwood are susceptible

VTC

Volutella Blight of Boxwood

Boxwood blight causes rapid defoliation during warm summer weather accompanied by periods of rain or high humidity.

In contrast, Volutella blight symptoms develop in early spring on previous year's growth before new growth begins.

Volutella Blight of Boxwood

A distinguishing symptom of boxwood blight is the presence of black streaks along green stems, a symptom absent from Volutella blight.

In addition, boxwood blight results in rapid defoliation, while dead leaves tend to remain attached to plants for long periods when Volutella blight is the cause.

Volutella Blight of Boxwood

Caused by one of two fungi, both are considered weak pathogens, always around but not causing much damage until plants are injured or stressed, rarely infecting otherwise healthy plants.

Volutella blight alone usually doesn't kill boxwoods, but loss of branches can severely affect symmetry and ornamental value.

Volutella Blight of Boxwood

Also affects pachysandra

Usually occurs during periods of high humidity and rainfall.

It commonly occurs in areas where plants are overcrowded or where there is poor air circulation.

The disease manifests as brown or tan lesions on the stems and leaves of the plants.

BOXWOOD BLIGHT

Volutella Blight of Boxwood

Also affects pachysandra

VTC

BOXWOOD BLIGHT

Volutella Blight of Boxwood

BOXWOOD BLIGHT

LEAVES AFFECTED BY VOLUTELLA BLIGHT EVENTUALLY BECOME STRAW-COLORED AND MAY REMAIN ATTACHED TO BRANCHES.

Volutella Blight of Boxwood

BOXWOOD BLIGHT

Volutella Blight of Boxwood

SALMON-COLORED SPORODOCHIA DEVELOP ON UNDERSIDES OF LEAVES DURING WET WEATHER OR HIGH HUMIDITY.

VTC

BOXWOOD BLIGHT

Volutella Blight of Boxwood

STEM CANKERS OFTEN RESULT IN LOOSE BARK AND GIRDLED BRANCHES.

Summary - Boxwood Blight Manageable

Pathogen Weaknesses

- Limited genetic diversity
- NOT airborne
- Highly weather dependent
  - Reproduction
  - Dispersal
  - Infection
- Highly sensitive to extreme weather condition
  - Pathogen survival

IPM Strategies

- Building heath into new gardens
  - Use resistant cultivars - preferably resistant to boxwood blight and leafminer
- Protecting existing plantings
  - Avoid accidental introduction and local spread using the IPM tactics discussed today and/or designing your own to attack the weaknesses.
- Boxwood blight can be managed most effectively and efficiently only through all community members including contractors each doing his/her shares

USDA PHOTO