Best Management Practices for Avoidance and Mitigation of Box Blight in Wholesale Nurseries

Chuan Hong

Virginia Tech, Hampton Roads Agricultural Research and Extension Center, Virginia Beach, VA 23455

Box blight is a new disease to the U.S. This disease was first found in North Carolina in late October 2011. It has recently been found in seven other states (CT, MA, MD, NY, OR, RI, VA) but the number of infested locations within each state is limited. In Virginia, this pathogen was detected in only two production fields.

Box blight has already devastated some horticultural businesses. This pathogen spreads via trade of infected plant materials. It also may spread through contaminated tools, vehicles, boots, etc. The following information outlines some best management practices for avoiding introduction of box blight into the nursery. These practices also will slow down the local spread in the event of an accidental introduction.

Handling of incoming plant materials

1. Be aware of the risk associated with bringing plant materials of the family Buxaceae and other ornamental plants to the nursery. Delivery trucks may carry infected plants. They also could be contaminated from previous infected shipments. Every delivery increases the risk of box blight introduction.
2. Reduce both diversity and volume of buy-for-resale plants to the minimum.
3. Stay tuned with reports on the development of box blight in Virginia and other states (http://www.ppws.vt.edu/~clinic/alerts.php). Avoid buying plants from infested areas. Carefully select vendors based on the previous purchase experience. Stay away from those heavily relying upon chemical protection since fungicides may hold the disease in check on infected plants.
4. Ask for inclusion of the most recent fungicide treatment information in the shipment package. This information should include fungicide name, application rate and time.
5. Inspect incoming plants at delivery. If box blight is detected, immediately report to the Virginia Department of Agriculture and Consumer Services. The contact number is 804-371-5086. If plants are suspected to have box blight, send a sample to the Virginia Tech Plant Disease Clinic via your county extension office.
6. Keep incoming plants in a corner at the plant center. Hold them for 3 weeks to allow existing chemical protection to wear off. Then inspect plants again before resale.
7. NEVER mix incoming plants with locally-grown boxwood plants.
8. Buy tissue culture-propagated boxwood materials for production if absolutely necessary.

9. Place incoming liners in isolated locations away from production areas of boxwood propagated on-site.
10. NEVER move plants from the plant center back to production areas.
11. NEVER recycle any plant or planting materials from the plant center. These include plastic containers, potting mixes, etc.
12. Designate one set of tools for use in the plant center only, separating from those used in production. Disinfest these tools routinely as practical and at the very least daily.

Propagating boxwood using plant materials on-site

1. Locate propagation in an isolated area. Limit access to essential personnel only. Use footbaths at the entrances to the area.
2. Clean, then disinfest all work surfaces prior to and after each propagation task. These include benches, walls, floors, trays, tools, etc.
3. Select mother plants from carefully inspected, healthy-looking materials. Selected mother plants should not have received any fungicides for at least 4 weeks.
4. Surface-sterilize all cuttings before rooting them. Disinfestants could be bleach, hydrogen peroxide or quaternary ammonia.
5. Use only new flats, containers, fresh potting mix or sterilized media for propagation.
6. Disinfest all tools before starting propagation of each cultivar.
7. Ensure that propagators wear disposable nitrile exam gloves. They also should change the gloves between cultivars.
8. Watch for symptomatic liners. Remove them on their first detection.