New Disease of Boxwoods Detected in Several US States

North Carolina State University (NCSU) organized a webinar on a new disease of boxwoods, Boxwood Blight or Boxwood Leaf Drop, on January 5th. Below are a few bullets from the webinar, which was presented by Kelly Ivors, Associate Professor and Extension Specialist, NCSU.

- Boxwood Blight is caused by the fungus *Cylindrocladium buxicola* and is a very destructive disease of *Buxus* species.
- The disease was confirmed for the first time in North America on boxwood plants from two commercial nurseries in North Carolina in October 2011. It was suggested that the pathogen has been in the state since at least 2010.
- The pathogen was also detected around the same time on plants in Connecticut, where is has since been detected at multiple sites including residential landscapes, and commercial garden centres and nurseries. The pathogen has reportedly also been detected in Massachusetts, Maryland, New York, Oregon, and Virginia.
- Boxwoods are extremely susceptible to the pathogen and severe damage was noted at the nurseries in North Carolina in 7 to 10 days. Three weeks of rainy weather in late August was a contributing factor in the outbreak.
- Research from Europe suggests that all species of boxwood are susceptible and that English boxwood (*B. sempervirens*) is the most susceptible species.

Symptoms and Spread

- The pathogen is spread by water splash or wind driven rain, and on contaminated tools, debris and animals.
- The spores are very sticky and do not generally travel far in wind currents.
- In the nursery, rain splash moves spores from the soil on to lower foliage of the plants. The first symptoms are small, circular leaf spots that are purplish-brown in color and may show zonation. Over time, the spots coalesce and 100% of the foliage can become blighted.
- All of the lower leaves will drop on severely infected nursery stock and tufts of green growth will only be present at the end of branches.
- Stem cankers are also very common and large amounts of white fungal mycelium will be present on the foliage.
- The disease cannot be identified by visual symptoms because there are other pathogens of boxwoods with similar symptoms. Microscopic examination of spore structure is required for identification.

Discease Cycle

- The disease cycle is completed in one week.
- Infection occurs very quickly in warm (18 to 25°C) and humid conditions.
- In the laboratory, symptoms were visible in 48 hours following inoculation and sporulation occurred in 72 hours.
- The pathogen produces hardy spores that are known to survive in fallen foliage for 6 years or more.

Control

- The fungicides that were recommended to control the pathogen are not currently registered in Canada for use on nursery stock. Further work is necessary to identify the most effective fungicides and to expand their registration to boxwoods.
- A fungicide-resistant clone of Boxwood Blight (G2) is present in the UK but has not been detected in the US. However, limited testing has been conducted on the US samples. The clone present in Connecticut is the common UK clone (G1).

Regulatory Status

- Little information was mentioned on the regulatory status of Boxwood Blight in the US. It was stated that APHIS is working to determine the distribution of the pathogen in the US. At this time, state surveys for Boxwood Blight are voluntary. No information was provided on how many states are actively surveying for the pathogen.

For additional information on Boxwood Blight, Virginia Cooperative Extension has produced a good factsheet that is available online at: http://www.vdacs.virginia.gov/plant&pest/pdf/boxwoodblight.pdf