

Eastern Region Nursery and Greenhouse Program
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Eastern NC Nursery News

August 2019

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Boxwood Dieback Alert!



Last year I ran across damage on Baby Gem boxwood that was diagnosed with *Colletotrichum theobromicola*, boxwood dieback, in conjunction with Phytophthora root rot. The root rot was worse than the dieback disease. This year, just last week while at a greenhouse grower/retail nursery/garden center, Hannah Smith (Extension Agent) and I ran across some Winter Gem boxwood with tip dieback and the grower was concerned that the symptoms were different than what he had seen on boxwoods in the past. Early symptoms are similar to mild root rot or even Volutella blight, both very common on boxwood. So I dropped a plant off at the NC State Plant Disease and Insect Clinic on Friday around noon and received a preliminary report before the end of the day that the diagnosis was *Colletotrichum theobromicola*, boxwood dieback. That was confirmed with more details early this last week of August. I also found out that there have been at

Tip dieback symptoms of boxwood dieback. least 3 samples from container nurseries of this disease on boxwoods in the past 2 months. That is usually my key indicator that a problem has reached a level that needs widespread attention. In my research, I ran across this [National Pest Alert](#) that was just released in June 2019. The alert link above has a full description of symptoms, host range, how the disease spreads, and management from a cultural standpoint.

The key is to have clean liners, have a standard practice of holding liners in an observation area before potting to monitor and ensure there are no issues, investigate any tip dieback no matter how small very closely and submit a sample if needed, make sure pruning tools are sharp and disinfected between plant groups (even of the same species), don't prune when wet, and thoroughly clean up clipping and dispose of them far away from production or material storage areas (or preferably destroy infected clippings by burning or bagging).

The good news for nursery growers is this disease (if caught early) is not systemic in plants and can be pruned out. You must be careful to prune below the margin of symptomatic and non symptomatic tissue to remove it. This should be followed with preventative fungicide applications discussed further down. Again, sanitation and cleaning equipment is key. In the landscape, evidently when overlooked and left to become severe, pruning is not a viable option for management. There has not been extensive research yet on this disease in boxwood. Dr. Raj Singh, Professor at LSU and the author of the pest alert above is getting ready to do some fungicide trials specifically on this disease in boxwoods...so hopefully more information will be coming on that. In the meantime, I received this information from Dr. Sara Villani, our Apple and Ornamental Pathologist at NC State:

"While I have not done any work with *C. theobromicola* on boxwood, I do have extensive experience with the *gloeosporoides* species complex on apple which should translate well to boxwoods. My colleague in Kentucky has also done a little fungicide research with *theobromicola* on apple.

Considering we are dealing with an ornamental host, my suggestion would be to use mancozeb (e.g. Fore 80WP) in rotation with a fungicide that contains a FRAC 11. Pyraclostrobin containing products such as Pageant or Orkestra would be a good choice. All of these fungicides work better when applied protectively. If applying Fore 80WP, the grower should really stick to a 7 to 10 day application interval. With Orkestra or Pageant, they may be able to spread that to 14 days, but I'd caution against going much longer. Products containing thiophanate methyl are an alternative however: 1) the product breaks down relatively quickly and 2) there's a fair amount of resistance to this fungicide.

In regards to cutting out symptomatic tissue. The pathogen isn't systemic, so I suspect it would be beneficial. I would aim to prune on a cooler day and when the foliage is dry. Even after pruning out the infection, make sure to continue protective fungicide applications as there can be a fairly long incubation period until symptoms start to show."

So keep your eyes and ears open for more information on this as we get it. **Special thanks to Mike Munster at the NC State Plant Disease and Insect Clinic and Dr. Sara Villani for providing detailed information about this disease.**

February 11, 2020 Eastern NC Nursery Conference



Save this date to be in Wilson to learn about Nursery Weed Management, Scale Management, Diseases of Needle-leaved Evergreens, and Nursery Tree Pruning. Speakers coming from Virginia Tech, Clemson University, University of Georgia, and NC State.

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The Eastern Region Nursery and Greenhouse Program at NC Cooperative Extension is your source for research-based production information for greenhouse and nursery crops in Eastern North Carolina.

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