

Terminal die-back, the result of a new *Neofusicoccum* species

Neofusicoccum, a member of the Botryosphaeriaceae family, is a fungal pathogen of woody hosts. It is a threat to pecans (*Carya illinoensis*) throughout the South as it damages the above ground parts of plants. Terminal die-back is the most common symptom, resulting in dying or browning of terminal leaflets, and eventually entire compound leaves, scattered throughout a tree. The pathogen often remains dormant until the host's immune response is suppressed by environmental factors such as drought. Some orchards in Georgia have begun displaying terminal die-back. The causal fungus has been identified as a member of the genus *Neofusicoccum*, but the species is not yet known. Additionally, the disease has become more prevalent in Texas, and we are interested in determining if the casual fungus is the same as the species in Georgia. To determine the species of the disease, we studied the morphology and phylogenetic relationship of samples to those of known species such as *Neofusicoccum ribis*. Isolates were grown in order to examine colony morphology and subjected to UV light in order to induce and describe sporulation. For phylogenetic analyses, we sequenced a total of 9 isolates from Georgia and Texas using *ITS*, *BTUB*, *EF-1a* and *BotF15* genes. All sequences were aligned and subjected to phylogenetic analyses. Results indicated that the isolates collected from Georgia and Texas are phylogenetically similar to each other but distinct from other *Neofusicoccum* species. These results show that terminal die-back is caused by a new fungal species that needs to be fully described and named.