XHT1010

University of Wisconsin Garden Facts

Extension
UNIVERSITY OF WISCONSIN-MADISON

Provided to you by:

Diplodia Shoot Blight and Canker

Brian Hudelson, UW-Madison Plant Pathology

What is Diplodia shoot blight and canker? Diplodia shoot blight and canker (formerly Sphaeropsis shoot blight and canker) is one of the most common fungal diseases of Austrian pine in Wisconsin. This disease can also affect other pines including red, jack, Scots and mugo pine, as well as other conifers including cedars, cypresses, firs, junipers and spruces.

Diplodia shoot blight and canker killing branch tips of Austrian pine.

What does Diplodia shoot blight and canker look like? Initially, affected branch tips may ooze a large amount of resin, and eventually, these branch tips brown and die. Dead needles on these branches have varying lengths. As the disease progresses, sunken or swollen, discolored areas (called cankers) may form on infected twigs. Diplodia shoot blight and canker can be distinguished from damage from boring insects by the presence of heavy resin flow, but an absence of any tunneling.

Where does Diplodia shoot blight and canker come from? Diplodia shoot blight and canker is caused by several fungi in the genus *Diplodia*. These fungi include *Diplodia sapinea* (formerly known as *Diplodia pinea* and *Sphaeropsis sapinea*), which has historically been cited as the cause of the disease on Austrian pine, but is only one of several *Diplodia* species that can cause problems on this host. *Diplodia* fungi survive in infected shoots and pinecones where they form small, black fruiting bodies (i.e., reproductive structures) that produce brown-colored spores.

How do I save a tree with Diplodia shoot blight and canker? Immediately remove and destroy diseased branch tips. Also, where possible, remove and destroy pinecones that have fallen from infected trees. Dispose of these materials by burning (where allowed) or burying them.

When pruning, cut branches six to eight inches below the point where they are obviously infected. Prune only in dry weather. Between cuts, decontaminate pruning tools by treating them for at least 30 seconds with 70% alcohol (e.g., rubbing alcohol straight out of the bottle), a spray disinfectant containing 60-70% active ingredient or a 10% bleach solution (i.e., one part of a disinfecting bleach and nine parts water). If you decide to use bleach, be sure to rinse your tools thoroughly after you are done pruning and then oil them to prevent rusting, which can be caused by bleach use. Decontaminating tools is important to help prevent accidental movement of *Diplodia* fungi from branch to branch during pruning.

How do I avoid problems with Diplodia shoot blight and canker in the future? Avoid planting Austrian pines; plant other types of evergreens instead. Minimize any stresses on established Austrian pines. Water trees adequately, particularly during dry periods. Established trees should receive approximately one inch of water per week from the time that the ground thaws in the spring, through the summer and into the fall up until the ground freezes or there is a significant snowfall. New transplants (i.e., conifers planted within three years) require

Revised
Mar. 8, 2021

University of Wisconsin Garden Facts

Extension
UNIVERSITY OF WISCONSIN-MADISON

approximately two inches of water per week. During periods with insufficient rain, apply water at the drip lines of trees (i.e., the edges of where the branches extend) using a drip or soaker hose.

Needles of different lengths (left) and production of excessive resin on branch tips (right) are typical symptoms of Diplodia shoot blight and canker.

When planting trees, be sure to allow ample space for roots to grow, avoid compacting the soil around trees and make sure there is adequate soil drainage. Mulch trees to at least their drip lines with a high-quality mulch (e.g., shredded oak bark mulch, red cedar mulch). Use one to two inches on heavier (e.g., clay) soils. Use three to four inches on lighter (e.g., sandy) soils. Keep mulch approximately four inches from tree trunks. DO NOT fertilize new transplants, and fertilize established conifers only when a soil fertility test indicates that fertilization is needed. DO NOT overfertilize, particularly with nitrogen.

Finally, you may want to apply fungicides to help prevent infections. Apply fungicides only after you have pruned out diseased branches as described above. Fungicides prevent infections but do not cure existing infections. Alternate use of fungicides containing thiophanate-methyl and chlorothalonil that are labeled for use on conifers. Start applications at bud break and continue at 14 day intervals until full shoot elongation. DO NOT use thiophanate-methyl alone. Overuse of thiophanate-methyl can potentially select for variants of *Diplodia* that will no longer be controlled by this active ingredient. Be sure to read and follow all label instructions of the fungicides that you select to ensure that you use the products in the safest and most effective manner possible.

For more information on Diplodia shoot blight and canker: Contact your county Extension agent.

Thanks to Diana Alfuth, Jean Ferdinandsen, Jason Gough, Phil Luedtke, Scott Reuss and Amy Sausen for reviewing this document.