

Opening Pine Buds, Signal Time to Control Diplodia Tip Blight

Browning and death of branch tips is quite common in older, well-established pine plantings. Such damage is often due to Diplodia Tip Blight, (syn. Sphaeropsis tip blight). Infection kills current-year shoots and eventually may kill whole branches. This disease, caused by a fungus, becomes increasingly more common and destructive as trees age, although young trees can be affected. Austrian pine is the most severely affected of the pines, but Ponderosa, Scotch and Mugo pine are also susceptible.

Symptoms

The most conspicuous symptoms of Diplodia tip blight are stunted new shoots with short, brown needles still partially encased in their sheath. Infected shoots are quickly killed and may be located throughout the entire tree, although damage is generally first evident in the lower branches. The severity of damage may vary considerably throughout the tree, with some branches that have been infected several years in a row dying back completely. After two or three successive years of infection, treetops may also be extensively damaged. Repeated infections reduce growth, deform trees and ultimately kill them.

Small, black, pimple-like structures develop at the base of infected needles and on the backside of pine cone scales. These structures produce additional fungal spores that can re-infect the tree.

Pests Causing Similar Symptoms

Diplodia tip blight can be confused with damage from pine tip moths; however, pine tip moth damage can be distinguished by the presence of larvae or tunnels found when the affected shoot is slit open. It should also not be confused with pine wilt, a disease caused by trunk-dwelling nematodes, which is killing many pines across Nebraska. Pine wilt primarily affects Scotch pine trees, and kills the entire tree very quickly. Usually within a matter of 2 or 3 months.

Control

New shoots are most susceptible during a two-week period starting when the buds begin to open and continue to be susceptible through mid-June. Infections are worse during years with very wet spring conditions, which promotes disease infection. High humidity also promotes the germination of spores. Fungus spores are dispersed primarily on rain splash from March to October.

Interestingly, Diplodia is seldom found in forests, but is common in windbreaks and on stressed trees growing under urban conditions. What stresses pine trees? Poor sites, overshadowing, compacted soil, root restrictions, improper planting depth, mechanical wounding, insect activity, drought, overwatering and hail are common problems. Maintaining tree health through good basic care will minimize the impact of Diplodia.

Start now by pruning out dead branches to reduce disease pressure.

Two applications of fungicide are recommended. The proper growth stage for applications usually falls during the third week in April, with a second application in the first week of May for eastern Nebraska. Applications should be made as buds at the tips of the branches begin to open, with a second application 7-10 days later. A third application may be beneficial in trees that are heavily infected, or if wet spring conditions persist into early June. For homeowners, Bordeaux mixture, liquid copper, Cleary's 3336 (thiophanate-methyl), or propiconazole (Banner MAXX) are effective in treating this disease. Read and follow all label directions carefully before application.

Getting good coverage with liquid fungicide applications can be very difficult, especially with large trees. Using a hose-on sprayer can help, as it utilizes water pressure to increase the height of application. Ideally the entire canopy should be thoroughly sprayed with even coverage, but if you can't reach the top of the tree it's OK to focus on the lower two-thirds. Higher humidity closer to the ground usually leads to increased disease pressure in the lower section of the tree's canopy.

More information:

[Diseases of Evergreen Trees](#), Nebraska Forest

Service (<http://nfs.unl.edu/documents/foresthealth/diseasesevergreen.pdf>)

[Sphaeropsis Tip Blight of Pine](#), University of Nebraska- Lincoln Extension

(<http://extensionpublications.unl.edu/assets/pdf/g1845.pdf>)

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Your Suggestions are Welcome!

Is there a lawn and gardening topic you would like to learn more about? Sarah Browning is an Extension Educator with Nebraska Extension and can be contacted by phone 402 441-7180, by mail at 444 Cherrycreek Road, Lincoln, NE 68528: or by e-mail sarah.browning@unl.edu.



Images- Sarah Browning, Nebraska Extension

- Diplodia3 - healthy shoot on left, infected dying shoot on right
- Diplodiacone - small black fungal structures on undersides of cone scales
- Diplodia - severe Diplodia infection causing branch dieback



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