

## Fungal disease at work on white spruce

My white spruce are dropping needles. On some branches I have noticed a 6 to 10-inch circle of dead needles. Many branches are dead. They seem to die from the outside in. Several people have told me the problem might be needle cast. I have seen this in southern Minnesota. What do you think?

—MINNESOTA

Your problem appears to be either a needle cast disease called rhizosphaera or cytospora canker. Both are diseases caused by fungi, and both usually start from the lower portion of the tree and spread upwards. Infected needles will be purplish. Severe defoliation occurs as the disease progresses.

Cytospora canker develops bluish-white pitching on infected branches. Fungal fruiting bodies appear. Rain, insects and birds spread fungal spores from branch to branch. No fungicide will help manage cytospora canker. Reduce stress on the trees and water, mulch and fertilize properly. Prune infected branches when they are dry. Disinfect pruning tools in rubbing alcohol or dilute bleach to prevent further infection.

Rhizosphaera also causes purplish needle discoloration and defoliation. This disease can be managed with fungicides such as Cleary's 3336. Early detection is important. Unlike cytospora, this disease produces no bluish white pitching on branches, but it produces small

fruiting bodies on needles which are visible.

It's possible that a given tree could have both cytospora and rhizosphaera needle cast diseases. It might be wise for you to send samples of the suspected diseases to a diagnostic lab in your area before treating. Meanwhile, continue to provide proper watering, mulching and fertilizing.

## Dealing with warm-season disease

*How can I control disease and fungi in south Florida, when the climate is adverse (such as mid-summer), and how will this affect the turf?*

—FLORIDA

Success in disease management depends on several factors: correct identification, proper timing for treatment and proper materials. Of course, you cannot select the proper material until you have correctly identified the disease. Your local cooperative extension service or private companies and consultants should be able to help you with that.

If the turfgrass areas have had a history of certain serious diseases, treating those areas on a preventive basis may be beneficial. Most disease can be managed if the problem is detected early in disease development and properly treated. If the disease has progressed too far and is too late to manage, fungicide treatments may not be practical or beneficial. Overseeding or renovation may be necessary.

*Along with fungicide treatments, it is important that you identify contributing stress factors and correct them.*

This is particularly true with diseases like dollar spot, pythium blight, melting out, brown patch, summer patch, necrotic ring spot, and fusarium blight to name a few.

As far as your question of how will this affect the turf, it depends upon how well the overall disease management has been implemented. Fungicides should be used at the proper time, which in turn depends upon the specific disease activity. The disease-causing agents often establish on stressed and weakened plants.

Therefore, along with fungicide treatments, it is important to identify the contributing stress factor(s) and correct them. Provide good cultural management to improve plant health. Provide a good fertility program with proper amounts of potassium to improve stress/disease tolerance. For most diseases, multiple applications of fungicides are necessary at specific intervals. **LM**



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