



Diagnostic Facts

Diagnostic Services
Michigan State University



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Rhizosphaera Needle Cast Disease

Jackie Smith, Diagnostic Services
Jan Byrne, Diagnostic Services

Rhizosphaera needle cast causes premature death and casting of needles of conifers. The fungus

Rhizosphaera kalkhoffii causes the disease. Blue spruce sustains the greatest damage, though the fungus infects other spruces as well. The fungus tends to infect the older (inner) needles on lower branches first. The needles may become brown or purple and eventually drop from the tree. Prolonged periods of moisture from rains or irrigation promote the disease. Although the fungus may attack needles anytime during the growing season, spring infection is probably more common.



Rhizosphaera needle cast on blue spruce showing needle loss on lower branches. Photo courtesy of Iowa St. Univ. Extension.

Often homeowners are looking for effective methods to “cure” affected spruce trees. There is no method

that will eradicate *Rhizosphaera* from the tree. *Rhizosphaera* is common and widespread in Michigan. Before deciding on a treatment plan homeowners should first consider the long term investment necessary to apply fungicides to infected trees. Repeated applications are typically necessary to make meaningful improvements, and it may take several years to see that improvement. In crowded settings,

you may decide to instead remove some infected trees to create more space for remaining trees. Alternatively, tree replacement is sometimes the best option.

If you chose to try chemical control a protective fungicide with the active ingredient chlorothalonil (sold as Multi- Purpose Fungicide, Daconil 2787, and others) can prevent new growth from becoming infected. Timing of the applications is very important. It is important to protect new growth as it emerges, therefore fungicides should be applied in a timely manner when the new needles are half elongated (late May or early June) and again three to four weeks later. Even though fungicide applications can help control this disease, re-infection may occur in subsequent years. Application to large trees requires special equipment to ensure adequate coverage. Read the fungicide label carefully and apply only as directed.



Infected needles turn a purplish-brown before falling from tree. Photo courtesy Iowa St. Univ.



Fruiting bodies on needles. Photo courtesy of Univ. of Illinois Extension.

When planting new trees, consider alternatives trees with fewer pest and disease problems. For other information on alternative trees consider reading Dr. Bert Cregg's publication, "Alternative Conifers to Michigan Landscapes", it is available online at:

<http://www.hrt.msu.edu/assets/PagePDFs/bert-cregg/AlternativestobluespruceBertCregg.pdf> .