

UMass Extension -- Urban Forestry Diagnostic Lab

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Plant Abies concolor (Grigg)	Date 10-28-09
Contact Howard Gaffin	Firm Gaffin Tree and Landscape
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Briefly Describe Problem

Bark on concolor firs stems exudes sap from areas where branches emerge along main stem. These areas are visible on stem from the base of tree to the upper portions. Surrounding spruce trees are free of these symptoms. Trees grow in full sun as part of a windbreak/screen between 2 open fields.

Part affected Stem/branches	Symptoms Canker	Soil type Not Given
Drainage Good	Location Landscape	Age ~30 years old/20 years on site
When did symptoms appear? Unsure	Irrigation? No	
Were symptoms apparent previous years? Likely	Describe pesticide use: None	

Diagnostic condition of sample received: Good / helpful pictures. too!

Diagnosis and Management

The lab incubated bark pieces to check for disease infection. The fungus *Phomopsis* grew out. The *Phomopsis* fungus is an opportunistic pathogen causing stem and branch dieback due to canker infections on fir. *Phomopsis* cankers disrupt water transport beyond the point where they girdle branches and twigs. *Phomopsis* spores germinate and enter branch/twig wounds during wet periods.

Management strategies: *Phomopsis* fungi survive on dead stems and branches infected in previous seasons. If practical, during dry weather remove and destroy dead branches to reduce inoculum around firs and spruces. Maintenance of the vigor of concolor firs greatly enhances management of this disease. *Abies concolor* is intermediate in its tolerance of water shortage and at 20-40 years of age stressed trees begin to succumb to secondary disease problems. If possible, provide supplemental irrigation, apply mulch layer, and fertilize as needed. During extended dry periods, consider providing once weekly soaking irrigations. Allow water to run long enough it trickles 10-14 inches down into soil. Usually this means applying ~1 inch of water. Apply a 2-3 inch layer of composted mulch over root zone. Monitor soil mineral levels and fertilize per test results. These practices help firs maintain energy reserves needed to readily compartmentalize canker infections. Fungicide treatments are not reliably effective against *Phomopsis* canker.

Lab number 955	Received 9-30-09	Responded 10-28-09
By Daniel H Gillman	Payment received Yes	Amount Due \$0.00

Thank you. Payment Received