Horticulture Diagnostic Laboratory

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Juniper Tip Blight

Phomopsis juniperovora, Kabatina juniperi, or *Sclerophoma pythiophila*

Introduction: Juniper tip blight, a progressive dying back of twigs and branches, can be caused by one of three fungi, *Phomopsis juniperovora*, *Kabatina juniperi*, or *Sclerophoma pythiophila*. These diseases are devastating to young trees and hedges; trees more than five years old are less seriously damaged. In addition to many species of juniper, arborvitae, white cedar, cypress and false-cypress are susceptible to *P. juniperovora*. *K. juniperi* infects juniper species primarily, but *S. pythiophila* infects needles of pines, Douglas-fir, and eastern larch, and twigs of juniper.

Figure 1. Close up view of pycnidia of the fungus *Kabatina* (H.G.I.C., University of Maryland)

Symptoms: Blight symptoms first show up on recent growth of the lower branches. Dieback begins with shoot tips, and progresses back toward the main stem. Death of the entire plant may result where *P. juniperovora* and/or *K. juniperi* infections are involved. *S. pythiophila* infection often follows winter injury, but usually doesn't kill whole plants. Drought, freezing, dog urine, and transplant shock can cause similar dieback symptoms. However, if fungi are the cause, they will produce small black fruiting bodies (up to 0.5 mm in diameter) on recently killed leaves (**Fig. 1**) and stems and thus aid in diagnosis of juniper tip blights.

Disease Cycle. *P. juniperovora, K. juniperi* and *S. pythiophila* overwinter in killed twigs and bark on the shrub or on the ground. Fruiting bodies of the fungi develop in the spring and, during wet weather, release many spores capable of causing new infections. *P. juniperovora* attacks young succulent shoot tips and may also enter the plant through wounds. Infections can occur throughout the summer. *K. juniperi* attacks one year old growth in the fall, with symptoms showing up in early spring. The fungus may enter the plant through wounds, as well. If wet weather prevails, these fungi will spread throughout the shrub in the course of a few years or less. *S. pythiophila* attacks shoots weakened by winter injury.

Management Strategies: Infected twigs and branches should be pruned about two inches into live wood and destroyed. Prune only when plants are dry, and sterilize tools between each cut by swabbing them with a solution containing 1 part rubbing alcohol and 3 parts water or use a solution of 1 part household bleach to 9 parts water.

Plants should be spaced so as to provide good ventilation. This will reduce high moisture conditions which favor these diseases. Water in early morning only. Wounding during transplanting and during cultivation should be avoided for similar reasons. Do not over-fertilize. Prune out diseased branch tips during dry weather but avoid excessive shearing.

In New York State no fungicides are specifically registered for use against Sclerophoma. Kabatina may be listed on some thiophanate-methyl labels, but most of those products are restricted-use. Most products that are available for homeowner use are specifically labeled for treating *Phomopsis* or generally labeled to treat "twig blight" on Juniper. These include some products containing the active ingredients: copper, potassium bicarbonate, or propiconazole. Heritage is also labeled for Phomopsis, but treatments should he alternated with a pesticide with a different mode of action. Some products will require the addition of a spreader-sticker and should be applied every 2 weeks throughout the growing season. Follow

label directions, and be certain any formulation(s) of pesticide(s) you purchase are registered for the intended use. Additional products may be available for commercial use. Commercial applicators should refer to the appropriate commercial pest management guidelines, or contact their local Cooperative Extension Office for more information on currently registered products.

Disease-Resistant Junipers. Many species of *Juniperus* have been reported to be resistant to at least one of the common diseases. However, because all three are ubiquitous, resistance to at least two of the three is advisable. Listed in the chart on the following page are taxa with such resistance.

Disease-Resistant Junipers

	Resistant To		
Species/Variety	***Phomopsis***	***Kabatina***	**Rusts**
J. chinensis			
`Femina'	X		X
`Hetzii'		X	X
`Iowa'	X		
`Keteleeri'	X	X	X
`Pfitzeriana'	X	X	X
Sargentii	X	X	X
sarg.-glauca	X	X	
J. communis			
`Depressa'	X		X
`Hibernica'		X	X
`Saxatalis'	X		X
J. sabina			
`Broadmoor'	X		X
`Knap Hill'	X		X
`Skandia'	X		X
J. virginianae			
`Tripartita'	X		X

Disease-Resistant Juniper Chart obtained from: *2012 PMG for Commercial Production and Maintenance of Trees and Shrubs*, (TS-07), A Cornell Cooperative Extension Publication.

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The Pesticide Management Education Program (PMEP), in cooperation with the New York State Department of Environmental Conservation (NYSDEC), maintains a web site with a searchable database for pesticide products currently registered in New York State. Individuals who have Internet access can locate currently registered products containing the active ingredients suggested above at http://pims.psur.cornell.edu/index.php(NYS PIMS).

This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are still possible. Some materials mentioned may no longer be available, and some uses may no longer be legal. All pesticides distributed, sold or applied in New York State must be registered with the New York State Department of Environmental Conservation (NYSDEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional NYSDEC office. Read the label before applying any pesticide.

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