



Extension FactSheet

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Phomopsis and Kabatina Tip Blights of Junipers

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Phomopsis tip blight and Kabatina tip blight are two common diseases of junipers found in most states east of the Mississippi. Both diseases are caused by fungi and the damage they cause on nursery stock, transplants and certain juniper varieties in the landscape can be severe; however, most established junipers in the landscape are seldom killed. The disease is most serious on younger plants and becomes less serious as plants get older. There are many varieties of juniper that vary from very susceptible to highly resistant. Junipers are generally considered as low maintenance because they are relatively free of major diseases and insect pests; however, these diseases can adversely affect the appearance and health of these trees in certain locations and under the proper environmental conditions. Although Phomopsis and Kabatina blights cause almost identical symptoms, aspects of their development and control do differ. Therefore, it is important to distinguish between the two diseases.



Figure 2. Close-up of Phomopsis tip blight on juniper.



Figure 1. Close-up of Phomopsis tip blight on juniper.

Symptoms and Causal Organisms

Phomopsis tip blight, caused by the fungus *Phomopsis juniperovora*, damages new growth and succulent branch tips of junipers from mid-April through September. Older, mature foliage is resistant to infection; therefore, most blighting occurs on the terminal 4 to 6 inches of the branches. Affected foliage first turns dull red or brown and finally ash-gray. Small gray lesions often girdle branch tips and cause blighting of foliage beyond the diseased tissue. Small, black, spore-containing fungal fruiting bodies develop in the lesions. Use a hand lens to view these diagnostic fungal structures more easily.

Spores of the *Phomopsis* fungus are produced throughout the summer, and infection can occur whenever young foliage is available and moisture or humidity are high. Most infections usually occur in April through early June and again in late August



Figure 3. Appearance of Phomopsis tip blight on juniper in the landscape.

through September. Very few infections occur in mid-summer or during the winter months. Repeated blighting in early summer can result in abnormal bunching (witches' broom) and discoloration of the foliage, stunting of young trees or shrubs, or—in severe cases—plant death. Be cautious in diagnosing witches brooming and stunting because similar damage can be caused by the dwarf tip mite. With juniper problems, it is always a good idea to have problem diagnosis confirmed by a diagnostic laboratory.

Kabatina tip blight, caused by the fungus *Kabatina juniperi*, first appears in February and March; and well before symptoms of Phomopsis tip blight appear. The terminal 2 to 6 inches of diseased branches throughout the juniper first turn dull green, then red or yellow. Small ash-gray to silver lesions dotted with small, black fruiting bodies of the fungus are visible at the base of the discolored tissue. The brown, desiccated foliage eventually drops from the tree in late May or June. Foliar blighting occurs only in early spring; it does not continue through the summer. Blighting is also restricted to the branch tips and does

not cause extensive branch dieback or tree death. Be cautious in diagnosing witches brooming and stunting symptoms because similar damage can be caused by the dwarf tip mite. With juniper problems it is always a good idea to have problem diagnosis confirmed by a diagnostic laboratory.

The primary infection period for the *Kabatina* fungus is thought to be in autumn even though visible symptoms are not apparent until late winter or early spring. Infection often is associated with small wounds on branch tips caused by insect feeding or mechanical damage.

Control

1. When purchasing new plants, select those that have been reported to have disease resistance. Table 1 has information on relative disease resistance to Phomopsis and Kabatina for several Juniper selections.
2. Space new plantings to provide good ventilation and air circulation and avoid heavily shaded areas. Avoid wounding plants, especially in spring and autumn.
3. Water plants in early morning so the foliage will dry as soon as possible. Maintain adequate fertility, but do not over fertilize.
4. Prune out diseased branch tips during dry summer weather and destroy them. Do so only when plants are dry and no rain or overhead irrigation is expected for several days. Avoid excessive pruning or shearing.
5. Chemical control of these tip blight diseases normally is not necessary in established landscape or windbreak plantings. Occasionally, fungicide applications may be needed on susceptible junipers to control Phomopsis blight. Application of certain copper-based fungicides (Phyton-27, Kocide), thiophanate-methyl (Cleary's 3336, Domain, Fungo FLO), or mancozeb (Fore, Dithane, mancozeb) at 7- to 21-day intervals during rapid plant growth in the spring will give adequate control of Phomopsis but not Kabatina tip blight. Kabatina blight infections occur in the fall, and there currently are no fungicides labeled for control of this disease.



Figure 4. Severe infection of Phomopsis tip blight on juniper.

Table 1. Relative resistance of several Juniperus selections to Phomopsis and Kabatina tip blight.

<i>Host</i>	<i>Disease Resistance Rating*</i>		<i>Host</i>	<i>Disease Resistance Rating*</i>	
<i>Juniperus chinensi</i>	<i>Phomopsis</i>	<i>Kabatina</i>	<i>Juniperus scopulorum</i>	<i>Phomopsis</i>	<i>Kabatina</i>
Ames	L-M	0	Cologreen	?	L
Aureo-globosa	L	?	McFarland	?	L
Femina	L	?	Moffettii	L	M
Globasa	L	?	Silver Globe	?	L
Hetzii	L	0	Sutherland	?	L
Keteleeri	L	0			
Mas	L	0	<i>Juniperus communis</i>	<i>Phomopsis</i>	<i>Kabatina</i>
Mountbatten	L	0	Depressa	0	?
Perfecta	?	0	Oblonga pendula	0	?
Pfizeriana	M	L			
Pfizeriana Aurea	M	L	<i>Juniperus conferta</i>	0	?
Pfizeriana Compacta	L	?			
Pyramidalis	L	?	<i>Juniperus horizontalis</i>	<i>Phomopsis</i>	<i>Kabatina</i>
Robusta Green	0	0	Douglasii	L	?
Var. sargentii	L-M	?	Glenmore	L-M	?
Wintergreen	M	0	Procumbens	L	?
<i>Juniperus sabina</i>	<i>Phomopsis</i>	<i>Kabatina</i>	<i>Juniperus virginiana</i>	<i>Phomopsis</i>	<i>Kabatina</i>
Arcadia	L	?	Blue Mountain	?	0
Broadmoor	L	?	Burkii	?	L
Fastigiata	L	?	Cinerascens	L	?
			Emerald Sentinel	?	L
<i>Juniperus squamata</i>	<i>Phomopsis</i>	<i>Kabatina</i>	Globosa	L	?
Fargesii	0	?	Henryii	?	L
Meyeri	L	?	Manhattan Blue	?	L
			Peptans	L	?
			Tripartita	0	?

* Rating of 0 = no disease, L = light disease, M = Moderate disease, ? = unknown.

Information taken from "Juniper Diseases" Bulletin C-711 by Ted A. Tisserat, Kansas State University, Cooperative Extension Service, Manhattan, Kansas 66506.

This publication contains pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registration, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author, The Ohio State University and Ohio State University Extension assume no liability resulting from the use of these recommendations.

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