

Cooperative Extension---The Pennsylvania State University

## *Plant Disease Facts*

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### ASH DISEASES

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<b>Disease</b>	<b>Symptoms</b>	<b>Pathogen/Cause</b>	<b>Management</b>
Anthracnose	Young unfolding leaves are distorted and develop greenish-brown to dark-brown spots at their tips, along their margins, and between the veins. When fully expanded leaves are attacked, light-brown to tan blotches form. Severely infected leaves fall prematurely. Infected young twigs are girdled and killed. Disease severity is greatest on the lower branches. Fungal fruiting structures (acervuli) form in the infected tissues and are only slightly darker in color than the spots. A magnifying glass is required to find the acervuli in the spots.	<i>Gloeosporium aridum</i>	Remove and destroy infected twigs and branches during dormancy. Rake and remove fallen leaves in the autumn. Apply chlorothalonil, mancozeb, or thiophanate methyl + mancozeb as the young leaves and twigs are forming to protect them against initial infections. Continued applications are required until the weather becomes dry and daily temperatures average above 65°F.
Decline	Tree growth slows. Tufts of numerous branches form. Branch dieback progresses until much of the tree is dead.	Exposed site; heavy, poorly drained soils; drought; canker-causing fungi, viruses, nematodes, and phytoplasmas combine to weaken and kill the tree.	Protect the tree from as many stresses as possible.

<p>Ganoderma root rot</p>	<p>Branches dieback as a root rot develops. A very distinctive shelf-like fungus grows on the wood annually singly or in overlapping clusters. These shelves are brown to reddish brown on top with a cream to white margin and may become 14 inches across. The upper surface may appear to have been varnished.</p>	<p><i>Ganoderma lucidum</i></p>	<p>The appearance of the fungus on the tree is the last sign that the tree is severely diseased. Remove the tree immediately if it is in a location where falling limbs or the falling tree poses a threat to life or property.</p>
<p>Laetiporus root rot</p>	<p>The bark is slightly depressed and cracked in areas on trees with dying limbs. Infected trees are very prone to wind breakage. Massive clusters of bright, sulfur-yellow to salmon to bright-orange, shelf-like fruiting structures that turn white with age initially form in the summer or autumn on the wood of the tree but fall off during the winter. The underside of the fruiting structure has tiny pores in which the spores are formed. New shelves form on the wood the following summer and autumn. Fruiting occurs long after most of the damage has been done.</p>	<p><i>Laetiporus sulfureus</i> (formerly <i>Polyporus sulfureus</i>)</p>	<p>Remove the tree at the first sign of infection since it poses a very serious treat to life and property.</p>
<p>Rust</p>	<p>In the spring along the East Coast, yellow-orange spots form on the leaves of white and green ash. Leaves become distorted as orange fungal fruiting structures form on the underside of leaves and on petioles. Cankers form on twigs, and trees can be defoliated prematurely. The spores formed on ash blow to and infect <i>Spartina</i> (cordgrass) in salt marshes where the fungus overwinters.</p>	<p><i>Puccinia sparangioides</i></p>	<p>Apply chlorothalonil or mancozeb in the spring to protect young leaves and twigs of trees usually found with the disease. Trees usually free of the disease should not be sprayed.</p>

Yellows	Twig and trunk growth slows to less than half of the growth rate before infection. Bud break is 1 to 2 weeks earlier than normal. Foliage appears to be in tufts because of the very short internodes. Witches' brooms may form. Leaves may be yellow and smaller than normal. Scattered branches die during the winter. Water sprouts form along branches or at ground level. Early fall leaf coloration is a common symptom. Highly susceptible trees die 1 to 3 years after infection.	Phytoplasma	Leafhoppers and spittlebugs carry the pathogen. Remove infected trees.
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**Active Ingredients and Trade Names of the Chemicals**

FRAC Group No.	Risk Level	Class	Active ingredient	REI Interval	Trade names (EPA Reg. no.)
1	3	Benzimidazole	thiophanate methyl	12	3336 (1001-69), OHP 6672 (51036-329-59807), Fungo Flo (51036-329-59807), Systec 1998 (48234-12)
M	1	Chloronitrile	chlorothalonil	48	Daconil (50534-9)
			12	Echo (60063-7), PathGuard (60063-7-499), Concorde (72167-24-1812), Pegasus (72167-24-1812)	
		Dithiocarbamate	mancozeb	24	Dithane (707-180), FORE (707-87), Pentathlon (1818-251)
			manganese + zinc	24	Protect T/O (1001-65)
Combined products 1 + M	1		thiophanate methyl + mancozeb		Zyban (58185-31)



Ash anthracnose



Mosaic on ash

NOTICE: THE USER OF THIS INFORMATION ASSUMES ALL RISKS FOR PERSONAL INJURY OR PROPERTY DAMAGE. WARNING! PESTICIDES ARE POISONOUS. READ AND FOLLOW ALL DIRECTIONS AND SAFETY PRECAUTIONS ON LABELS. HANDLE CAREFULLY AND STORE IN ORIGINAL LABELED CONTAINERS OUT OF THE REACH OF CHILDREN, PETS, AND LIVESTOCK. DISPOSE OF EMPTY CONTAINERS RIGHT AWAY, IN A SAFE MANNER AND PLACE. DO NOT CONTAMINATE FORAGE, STREAMS OR PONDS.

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