

TREE DISEASES I



1. Sycamore anthracnose



2. Maple anthracnose



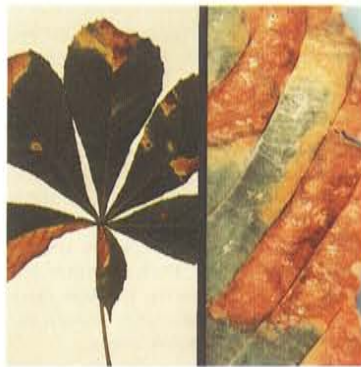
3. Anthracnose of white oak



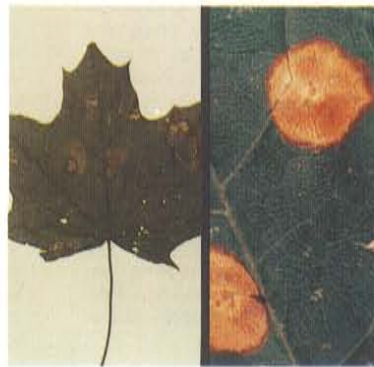
4. Walnut anthracnose



5. White mold or downy spot of walnut



6. Horsechestnut leaf blotch



7. Phyllosticta leaf spot (or purple eye) of maple



8. Cristulariella (or bull's-eye) leaf spot of walnut



9. Black leaf spot (or anthracnose) of elm



10. Oak leaf blister



11. Hawthorn leaf blight



12. Tar spot of maple



13. Aphids and sooty mold of tuliptree



14. Crabapple scab



15. Lophodermium needle cast of scots pine



16. Brown spot needle blight



17. Diplodia tip blight on Austrian pine



18. Oak powdery mildew

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1. **Sycamore Anthracnose**, caused by the fungus *Gnomonia platani*, may cause severe defoliation in American sycamore following cool (50 to 55° F) weather at first leaf emergence. Small to large, irregular, brown to black lesions form along the veins to the leaf edges. Girdled twigs, bud blight, and shoot dieback may occur in early to mid-spring. The fungus overseasons primarily as small, black fruiting bodies in twig and branch cankers.

2. **Maple Anthracnose**, caused by the fungus *Gloeosporium apocryptum* and related species, occurs from late May to early August. Small to large, round to irregular, light brown, green-brown, red-brown, and purple-brown areas form along or between the veins. The lesions may enlarge and merge until the entire leaf is killed. Severely affected leaves may drop early and serve to carry the fungus overwinter.

3. **Anthracnose of White Oak**, caused by the fungus *Gnomonia quercina*, appears as enlarging, irregular, brown blotches along the midribs and veins to the leaf edges. When severe, parts or all of most leaves are killed, especially on the lower branches. The anthracnose fungus may spread into the twigs where cankers and twig dieback occur.

4. **Walnut Anthracnose** is caused by the fungus *Gnomonia leptostyla*. Small to large, round to irregular, brown to black areas, some with yellow borders, often enlarge and merge to form large, irregular areas by midsummer. Black sunken spots form on the nuts which often contain dark, shriveled meats. Gray-brown lesions with reddish brown margins form on the current-season shoots. In wet years, severe defoliation may occur by mid- to late summer. The fungus overwinters in diseased leaves and twigs.

5. **White Mold or Downy Spot of Walnut** is caused by the fungus *Microstroma juglandis*. Brown and yellow blotches form on the upper side of leaves and a glistening white growth forms on the corresponding underside. The fungus overseasons in infected leaves.

6. **Horsechestnut Leaf Blotch** is caused by the fungus *Guignardia aesculi*. Small to large, reddish brown blotches, usually with a bright yellow margin, form in the leaves. Minute, black, fungus-fruiting bodies dot the centers of older lesions and distinguish leaf blotch from leaf scorch due to drought. The fungus survives in the fallen leaves.

7. **Phyllosticta Leaf Spot (or Purple Eye) of Maple** is a widespread disease caused by the fungus *Phyllosticta minima*. The spots are ¼ inch or more across, round to irregular, with brownish centers and purple-brown borders. The fungus survives in fallen leaves.

8. **Cristulariella (or Bull's-eye) Leaf Spot of Walnut** and numerous other plants, is caused by the fungus *Cristulariella moricola*. It appears as enlarging spots with distinct, concentric light and darker brown rings. If severe, trees may be partially defoliated. The fungus overseasons in fallen leaves.

9. **Black Leaf Spot (or Anthracnose) of Elm** is caused by the fungus *Gnomonia ulmea*. Small, round to irregular, grayish to black shiny spots form mostly on the upper surface. Numerous, black, fungus-fruiting bodies form in the lesions. Infected leaves turn yellow and, in wet years, premature leaf drop may be heavy. A twig blight and dieback may develop on Asiatic species of elms. The *Gnomonia* fungus survives in blighted twigs and fallen leaves.

10. **Oak Leaf Blister**, caused by the fungus *Taphrina caerulescens*, affects various oaks in a cool, wet spring. Circular, raised, wrinkled, yellowish areas appear on the upper surface with gray to yellowish brown depressions on the corresponding underside. Leaf blister seldom causes serious damage. New infections arise from overwintered leaves.

11. **Hawthorn Leaf Blight**, caused by the fungus *Fabraea thuemenii*, is widespread on English hawthorn and Paul's scarlet thorn. Small, dark brown to reddish brown spots with a darker margin appear on the upper surface. The enlarging spots may merge to form large, irregular areas. A raised, black dot of a fungus-fruiting body forms in the center of each lesion. When severe, trees may be defoliated by August. The fungus overseasons in fallen leaves.

12. **Tar Spot of Maple**, caused by the fungus *Rhytisma acerinum* is common on cut-leaf varieties of red and silver maples. Oval to irregular, yellow-green areas appear on the upper leaf surface. These enlarge and become tarlike, thickened, and raised. The fungus overwinters in fallen leaves.

13. **Aphids and Sooty Mold of Tuliptree**. The cosmopolitan small, green, tuliptree aphid (*Macrosiphum liriodendri*) excretes droplets of sugary solution called honeydew. Leaves, branches and objects beneath the tree are coated with the sticky substance, which is soon overgrown with sooty mold fungi. The fungi do not penetrate the leaves and are easily rubbed or washed off. Sooty molds are unsightly and a nuisance.

14. **Crabapple Scab**, caused by the fungus *Venturia inaequalis*, appears following wet weather in spring and summer as dull smoky areas that become sooty. The lesions become thickened and domed on the upper leaf surface. The spots commonly appear radiating with feathery edges on young leaves. On older leaves the lesions have more well-defined margins. On fruit the spots become black and corky. If severe, the leaves of certain varieties become curled, distorted, and dwarfed. Lesions on petioles cause the leaves to yellow and drop early. The fungus overwinters in fallen leaves.

15. **Lophodermium Needle Cast of Scots Pine** is caused by the fungus *Lophodermium seditiosum* (*L. pinastri*). Other susceptible pines include Austrian, jack, Japanese red, ponderosa, and red. In late winter or early spring, small brown spots or bands with yellow halos appear on last year's needles. The spots enlarge and may merge causing the needles to turn yellow, then brown, and drop off during summer. Most needle infections begin on the lower branches. If severe, entire trees turn brown during spring. Black, football-shaped, fungus-fruiting bodies, with a central longitudinal slit, develop on diseased parts. The fungus overseasons in diseased needles.

16. **Brown Spot Needle Blight**, caused by the fungus *Scirrhia acicola*, attacks over 20 species of pines. Reddish brown spots and bands with yellow halos, often covered with pitch, appear on current-season needles in late summer. The needle tips die back and entire needles turn brown to orange-red and commonly drop off in autumn. Defoliation is most conspicuous on the lower branches, especially on the north side. The *Scirrhia* fungus overwinters in dead needles.

17. **Diplodia Tip Blight on Austrian Pine**, caused by the fungus *Diplodia pinea*, is a major disease of 2- and 3-needle pines. The new shoots and needle growth (the candles) droop, turn brown, and are often stunted and twisted. Infected cones fail to mature. Minute, black, fruiting bodies (pycnidia) of the *Diplodia* fungus protrude from diseased needles, twig bark, and seed cones. Usually the lower branches are the first and most seriously affected.

18. **Oak Powdery Mildew** is a minor disease caused by one of several fungi. A white, powdery to felty growth forms on one or both leaf surfaces. The entire surface, as well as the tips of shoots, may be covered with mildew. The fungus overseasons on infected leaves and in buds.

For chemical and cultural control suggestions, a listing of resistant varieties and species and other information, consult the Extension Plant Pathologist at your land-grant university, or your county extension office.

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