

WOODY ORNAMENTAL DISEASES I



1. English ivy bacterial leaf spot



2. Boston ivy leaf spot



3. Cercospora leaf spot of Rhododendron



4. Alpine currant anthracnose



5. Azalea leaf gall



6. Camellia leaf gall



7. Buckthorn crown rust



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9. Vinca stem blight



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16. Forsythia stem gall



17. Euonymus crown gall



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1. **English ivy bacterial leaf spot** is caused by *Xanthomonas campestris* pv. *hederae* (*X. hederae*). Round, light green, water-soaked spots enlarge and become roughly circular to angular with greenish-brown, water-soaked margins and brown or brownish-black centers. The centers eventually become dry and cracked. Several lesions may merge to form large blighted areas. Twig tips turn black and die back into the old wood. Stem cankers cause the foliage to remain dwarfed and yellow-green. The bacterium is spread by splashing water and working among wet plants.

2. **Boston ivy leaf spot**, widespread in warm rainy seasons, is caused by the fungus *Guignardia bidwellii* f. *parthenocissi*. Reddish-brown, angular spots with dark brown margins, appear in late spring. Black, speck-sized, fungus fruiting bodies (pycnidia), arranged in more or less of a ring, appear in the lesions on the upper leaf surface. The fungus overwinters in plant debris and is spread by air- and water-borne spores (ascospores in the spring and conidia during the summer).

3. **Cercospora leaf spot of Rhododendron**, caused by the fungus *Cercospora rhododendri*, appears as angular, brown to dark brown spots. Older leaf lesions are somewhat zonate with a grayish down (conidiophores and conidia of *Cercospora*) in the center on the upper leaf surface. The disease is most severe on the lower leaves of young stock plants. The fungus spreads mostly by air- and water-borne spores (conidia).

4. **Alpine currant anthracnose**, caused by the fungus *Pseudopeziza ribis*, is widespread. Very small, brown, circular spots appear on the lower, older, and shaded leaves. Moist, flesh-colored masses of spores (ascospores) form in the centers of mature spots. Infected leaves commonly turn yellow and drop prematurely. Lesions also occur on the petioles and canes.

5. **Azalea leaf gall**, caused by the fungus *Exobasidium vaccinii*, is evident as enlarging, white-to-pink, fleshy, bladderlike galls involving all or part of a leaf, stem, flower, or seedpod. A fleshy rosette of leaves may form at a shoot tip. The galls are soft and succulent while young, later shrivel, turn brown and hard. Affected parts usually turn red, pale green, or whitish.

6. **Camellia leaf gall**, caused by *Exobasidium camelliae* var. *gracilis* is common on *Camellia sasanqua*. Diseased leaves are thick, fleshy, and much wider and longer than healthy leaves. The upper surface is nearly normal in color while on maturing galls the underleaf surface (epidermis) cracks and peels in strips and patches exposing a white mass of spores that are soon air- or water-borne. There is seldom more than one diseased shoot on a stem and usually only a few on an entire bush. The disease is much more alarming than damaging.

7. **Buckthorn crown rust**, caused by the fungus *Puccinia coronata*, is widespread especially near oats and wild grasses the alternate hosts of the rust fungus. Bright yellow-to-orange spots appear on the upper leaf surface of buckthorn leaves in early spring. Opposite these spots (usually on the underleaf surface) raised, yellow-orange "cluster cups" soon develop. Chains of spores (aeciospores) formed within the cluster cups are carried by air currents to infect nearby oats and grasses.

8. **Lilac powdery mildew**, caused by the fungus *Microsphaera alni*, is cosmopolitan from about midsummer on. Superficial, grayish-white, powdery patches gradually cover much of the upper leaf surface. Minute, round, black, fungus fruiting bodies (cleistothecia) are abundant in the grayish, feltlike mildew late in the summer. In general, powdery mildew flourishes when the days are warm to hot, the nights cool, and dew forms on the foliage. Powdery mildew is most severe on crowded plants growing in the shade.

9. **Vinca stem blight**, caused by the fungus *Phoma exigua* var. *exigua*, causes a widespread and serious dieback of *Vinca minor*. Rapidly expanding, dark brown to black girdling lesions on the overwintered stems cause them to wilt, turn dark brown to black and die back to the base. Dark spots may sometimes form in the leaves. Damage is most prevalent in cool, wet weather in spring and fall. Newly planted beds

and nurseries, where plantings are thin and not well established, are most susceptible.

10. **Phomopsis twig light of juniper**, caused by the fungus *Phomopsis juniperovora* is cosmopolitan on susceptible species and cultivars of *Juniperus*. New shoot growth dies back progressively, changing from light yellow to red-brown to ash-gray. Entire branches gradually die back and turn brown then ash-gray. When the disease is well advanced, black specks (the fungus fruiting bodies or pycnidia) can be seen with the unaided eye on the dried, ash-gray parts of stems and needles.

11. **Dogwood canker or dieback**, caused by the fungus *Botryosphaeria dothidea* (*B. ribis*), is common on weakened plants that are under stress. The enlarging, black, girdling twig and stem cankers cause the portion beyond to wilt, wither, and die. The bark surface later becomes grayish and roughened with protruding bodies of the *Botryosphaeria* fungus. This parasite attacks more than 50 other species of woody plants.

12. **Euonymous alata canker**, caused by *Nectria cinnabarina*, results in the leaves on affected stems suddenly wilting and dying after the new shoots have emerged. Light tan to orange fungus fruiting bodies (sporodochia) form in vertical rows in cankers at the bases of diseased stems. The sporodochia turn dark brown to black after exposure to frost. The *Nectria* fungus is a weak parasite that only colonizes stems that have been under freezing and possibly other stresses.

13. **Tallhedge Tubercularia canker**, caused by the fungus *Tubercularia ulmea*, results in a sudden wilting and dieback of stems associated with girdling cankers at the bases of affected stems. The foliage on stems of affected plants turns yellow then brown, withers, and hangs on for a time. The bark on diseased stems is studded with black fungus fruiting bodies (sporodochia). Cracks frequently form in the cankered bark. This disease is associated with winter injury or freezing stress which predisposes plants to attack by the fungus.

14. **Honeysuckle leaf blight**, caused by the fungus *Herpobasidium deformans* (imperfect stage *Glomerularia loniceriae*), is widespread. Yellowish-green blotches that turn tan and then brownish-black form in the leaves. A whitish "bloom" appears on the underleaf surface. Affected leaves roll, twist, wither, and drop early. Only young leaves become infected.

15. **Rhododendron wilt**, caused by various species of the fungus *Phytophthora*, especially *P. cinnamomi*, can stunt and kill plants of any age. Leaves on infected cuttings droop or wilt and develop a dull green to yellow cast. New shoot growth may not develop on older plants. The leaves that do form become dull green, droop, curl inward, and later turn brown. Roots and internal stem tissues at the soil line and below are reddish-brown to dark brown. The disease is most serious in excessively wet, poorly drained sites. The fungus attacks a wide range of woody plants and is disseminated in soil or runoff water as spores (chlamydospores and zoospores).

16. **Forsythia stem gall**, caused by the bacterium *Agrobacterium tumefaciens*, appears as irregular, nodular galls with fluted outgrowths that form along the stems. When the galls are numerous, the stems grow poorly or die back. Affected bushes are unsightly during the winter. The bacterium invades through fresh wounds.

17. **Euonymous crown gall**, caused by *Agrobacterium tumefaciens*, is cosmopolitan and attacks several hundred different woody and herbaceous plants. Enlarging overgrowths form on the stem (trunk), crown, and roots—usually at or near the soil line. The gall is white or flesh-colored at first, more or less round, convoluted, soft, and spongy. Older galls are more irregular, rough, dark brown to black, with a corky surface. Secondary tumors may develop at points above and below the primary gall. Affected plants lack vigor, become stunted and weak, and shoots may die back.

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