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EC81-1870 Guide to the Identification of Diseases of Shrubs

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HOME GARDEN AND LANDSCAPE DISEASE SERIES

**Guide to the Identification of Diseases
of Shrubs**

John E. Watkins
Extension Plant Pathologist



**1. Rose Yellow Mosaic
(Insert: Rose Mosaic)**



2. Rust—Rose



3. Fire Blight—Cotoneaster



4. Powdery Mildew—Lilac



5. Crown Gall—Euonymus



6. Scab—Pyracantha



7. Iron Chlorosis—Pyracantha



8. Blight—Honeysuckle



9. Twig Blight—Juniper

HOME GARDEN AND LANDSCAPE DISEASE SERIES

Guide to the Identification of Diseases of Shrubs

1. Rose Mosaics (Rose Mosaic Virus and Rose Yellow Mosaic Virus). The most common diseases of roses are rose mosaic and yellow mosaic. The viruses causing each are carried in buds, scions, and root stocks.

Symptoms of rose mosaic are light-green to bright-yellow mosaic patterns on leaves of infected plants. However, symptoms may vary from a general yellow chlorosis to vein clearing or banding to distinct rings or line patterns depending on the rose variety.

Yellow mosaic causes a general yellowing of veins or leaves but usually not the distinct ring or line patterns seen with rose mosaic. Also, the chlorotic areas are usually brighter and lighter than rose mosaic, particularly along the veins.

There is no known practical cure for rose mosaic once plants become infected. Control rests primarily with the nurseryman and commercial rose grower in providing virus-free understocks, budding, and grafting material. Although rose mosaics may cause stunting and weakening of plants, symptoms are usually not severe enough to require removal of the plant from the landscape.

2. Rose Rust (*Phragmidium* spp.). Rust may appear on any green portion of the plant as raised, orange pustules. Pustules on stems and petioles become quite large and can cause distortion of plant parts. In late summer and early spring, black pustules form in the same areas as the orange pustules. The rust fungus overwinters as the black pustule stage. Dormant pruning and removal of fallen leaves in autumn eliminates the overwintering source of the fungus. Foliar fungicides, registered for this use, can be applied during the growing season.

3. Fire Blight (*Erwinia amylovora*). The bacterium that causes fire blight attacks apples, pears, and a number of landscape plants including cotoneaster, spirea, mountain ash, pyracantha, hawthorne, juneberry and other related plants. It is a major threat to susceptible pears, apples, and crabapples. The bacterium infects flowers and leaves near the growing tips causing a rapid wilting and blackening of the leaves which remain attached to infected twigs. Leaves on blighted twigs appear as if scorched by fire.

From terminal infections on small twigs the bacteria spread to larger branches. Cankers develop on both small and large branches. The bark is slightly depressed, and a definite line delimits diseased from healthy bark. Fire blight is best controlled by dormant pruning of diseased branches and by applying streptomycin sulfate during flowering. Resistant varieties are available for certain hosts.

4. Powdery Mildew. Fungi of the powdery mildew group infect leaves of many shrubs. Lilac, euonymus, hydrangea, rose, and viburnum are commonly infected with powdery mildew. Grayish-white blotches of the fungus appear on the leaves in midsummer. Later tiny, black, round fungus fruiting bodies form in the felt-like patches. On certain hosts, (rose) mildew is a serious problem and requires control, but on others (lilac) the disease occurs late enough in the season that it does little damage. Several fungicides are registered for mildew control but they must be used cautiously if applied during hot weather.

5. Crown Gall (*Agrobacterium tumefaciens*). Crown gall causes rounded galls with an irregular rough surface on the stems and roots of a great number of plant species. Euonymus, honeysuckle, rose, and

wisteria are common shrub hosts. Infected plants become stunted, lack vigor, and fail to produce flowers and foliage of good quality. The bacteria enter the plant through wounds and can be carried on grafting or pruning tools.

Homeowners should examine nursery stock carefully before purchasing and select only disease-free material. Do not plant roses and other hosts in known crown gall infested soil and take care not to injure roots during planting. Commercial growers and nurserymen should use strict sanitation in grafting and handling nursery stock and inoculate cuttings of bareroot seedlings with Galltrol.

6. Scab (*Fusicladium pyracanthae*). Scab that occurs on pyracantha closely resembles scab on apples and peaches. The name is derived from the dark scab-like lesions on the fruits. Infected berries are usually shriveled. Velvety, sooty areas appear on leaves which later turn yellow, then brown and drop prematurely. The fungus becomes established on small twigs and can survive the winter. Apply a series of sprays using a registered fungicide beginning when buds break in spring.

7. Iron Chlorosis. Most landscape plants develop symptoms of iron chlorosis when soil pH levels exceed 6.5. Chlorotic plants show partial or complete yellowing of the leaves while the veins remain green. In severe cases leaves brown from the margins until they are entirely brown, then drop from the tree. Shrubs may die if chlorosis is not corrected.

Changing the soil pH is difficult. Temporary correction can be provided by spraying the foliage with slow release chelated compounds. The slowest response but most long-lasting control is usually obtained by applying iron sulfate, ammonium sulfate, or sulfur to the soil. The fertilizer must be placed at regular intervals near the active root system.

8. Honeysuckle Leaf Blight (*Herpobasidium deformans*). During rainy periods and cool weather, young leaves are infected. Symptoms are irregular, yellowish-green areas in leaves. These soon turn tan, then dark brown. Affected leaves are twisted and curled. A whitish "bloom" is usually evident on the lower leaf surface. In the home landscape locate plants in sites that allow for good air movement around the shrub. For dense plantings such as in nurseries or hedges, apply a registered fungicide to protect the new growth in early spring and through summer.

9. Phomopsis Twig Blight (*Phomopsis juniperovora*). Juniper twig blight occurs on several species of juniper and arborvitae. Small yellow spots appear on young needles of eastern redcedar and Rocky Mountain juniper. Infected needles turn light green then rapidly to a reddish brown. The progressive die-back of branch tips causes landscape plantings to become unsightly. Twig blight can severely damage first-year seedlings. Control with application of a registered fungicide following rainy periods. Removal of infected branches also aids in reducing overwintering fungus inoculum. Phomopsis blight on first-year seedlings may be confused with drought or Kabatina twig blight, therefore, an accurate diagnosis is essential.



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