



Arkansas Plant Health Clinic Newsletter

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Grape

Black Rot, caused by the fungus *Guignardia bidwellii* synonym of *Phyllosticta ampellicida*, is the most economically important disease of grapes. This disease originated in eastern North America, but now occurs in portions of Europe, South America, and Asia. When the disease was first introduced in Europe, it caused devastating losses to wine grapes. It can cause complete crop loss in warm, humid climates, but seldom occurs in regions with arid growing conditions. In areas where conditions are conducive for disease development, all new growth is susceptible throughout the growing season, including leaf laminates, petioles, shoots, tendrils, peduncles, and fruit. Symptoms on leaves are circular tan spots that eventually become reddish brown with a narrow dark brown border. Black pimple-like fruiting bodies of the fungus form in the lesions. The fruiting bodies also appear in black lesions on the young shoots. Infection on the berries starts as a small white dot. In only a few hours, the tiny dot is surrounded by a reddish-brown ring. Within a few days, the berry starts to dry, shrivel, and wrinkle to become a hard, blue-black mummy. The symptoms on Muscatine fruit are small, black, superficial, scabby lesions on

infected berries. The lesions may coalesce to cover most of the berry. Infected berries may crack at the edges of the scabs. Black Rot can be effectively controlled by using Maneb, or Captain, or Abound, or Pristine, starting when shoots are 4-6 inches (10-15 cm) high, and continuing at 14-day intervals until August. A rigorous sanitation program is helpful for all growers and essential for organic growers. All mummified berries and infected leaves and shoots should be cleaned up and removed from the planting. Copper, which is labeled for organic use provides acceptable control of Black Rot when applied weekly throughout the growing season. There are now cultivars available with some resistance to Black Rot. Table grapes Mars, Reliance, Sunbelt, and Venus have moderate resistance. Wine grapes Cascade, Cayuga White, Elvira, Lorette, Missouri Riesling, Norton, Portland, and Rosette, among others have moderate resistance.

Grape Black Rot- *Guignardia bidwellii*, synonym *Phyllosticta ampellicida*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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**Grape Black Rot- *Guignardia bidwellii*,
synonym *Phyllosticta ampelicida***



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

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Cherry/Peach

The collapse and death of young prunus trees in in the spring is one of the most frustrating issues in both orchard and ornamental settings. Trees 3 to 7 years old are the ones usually affected. The primary pathogen is Bacterial Canker, caused by *Pseudomonas syringae* pv.



Sherrie Smith
Ricky Corder

syringae. Many other factors contribute to Bacterial Canker, including cold damage, time of pruning, rootstocks, fertilization practices, and importantly, the Ring nematode, *Mesocriconema xenoplax*. Symptoms in the spring are like those caused by root rots.

However, when roots are examined, they are healthy. Cutting into the bark of main limbs and the trunk reveals a brown discoloration extending downwards towards the ground. A sour sap odor commonly accompanies the discoloration. Sometimes bacterial oozing from the bark occurs. Trees usually begin to leaf out, then collapse and die, although less seriously affected trees may die slowly over the course of the growing season. Susceptibility to Bacterial Canker has been linked to root stock susceptibility. In peach orchards the disease is known as Peach Tree Short Life (PTSL). Trees grown on Nemaguard rootstock are more susceptible to Bacterial Canker than trees grown on Lovell, which are in turn more susceptible than trees grown on Guardian (BY520-9) rootstock. Cold injury has also been closely linked to the PTSL complex. In short, any factor that interferes with the healthy cambium can contribute to Bacterial Canker. Older orchards are more likely to have higher rates of mortality because of elevated populations of Ring nematodes, hardpan development, and depleted soils. There are no chemical treatments.

Cherry Bacterial Canker- *Pseudomonas syringae* pv. *syringae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Cherry Bacterial Canker- *Pseudomonas syringae* pv. *syringae*



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Peach Bacterial Canker (PTSL) - *Pseudomonas syringae* pv. *syringae*



Photo by Kami Marsh, University of Arkansas Cooperative Extension

Princess Tree/Redbud

Princess tree, *Paulownia tomentosa*, also known as royal paulownia or empress tree, is a showy, aggressive ornamental introduced from East Asia. Princess trees grow 30-60 feet (9-18 m) tall and readily colonize disturbed ground. Although historically used as a lumber source and in medicines in its native lands, it is grown in the United States for its showy, pale violet, fragrant flowers which are produced in large upright clusters in the spring. Despite its extremely attractive appearance when in bloom, it is now considered a pest in many parts of the United States. Even so, we occasionally receive a sample with Bacterial Leaf Spot

caused by *Pseudomonas syringae* pv. *syringae*. *Pseudomonas* attacks many species of plants causing twig blights, cankers, and leaf spots. Species attacked include aspen, blueberry, camellia, cherry, dahlia, dogwood, filbert, forsythia, geranium, golden chain tree, hibiscus, lilac, linden, magnolia, maple, New Guinea impatiens, peach, pear, plum, poplar, princess tree, and redbud, among others. On princess trees and redbuds, small, mostly round to angular, water-soaked spots occur during humid wet weather. Severe infections can cause premature leaf drop. All fallen leaves should be raked up and removed from the planting area. Copper fungicides applied during the dormant season and at bud break in the spring help control Bacterial Leaf Spot.

Redbud Bacterial leaf spot- *Pseudomonas syringae* pv. *syringae*

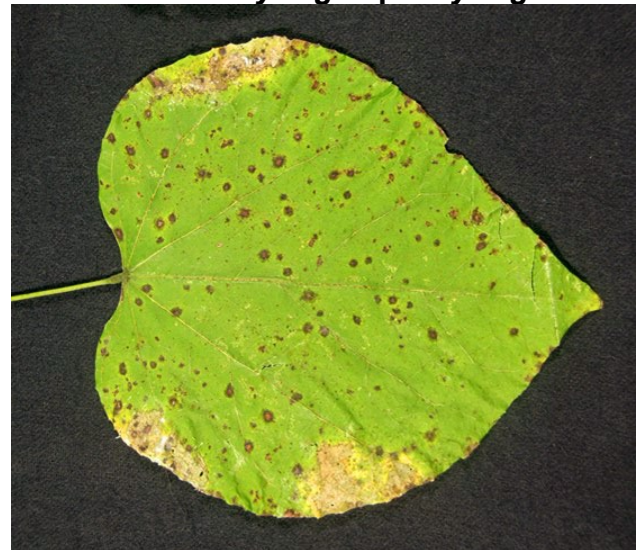
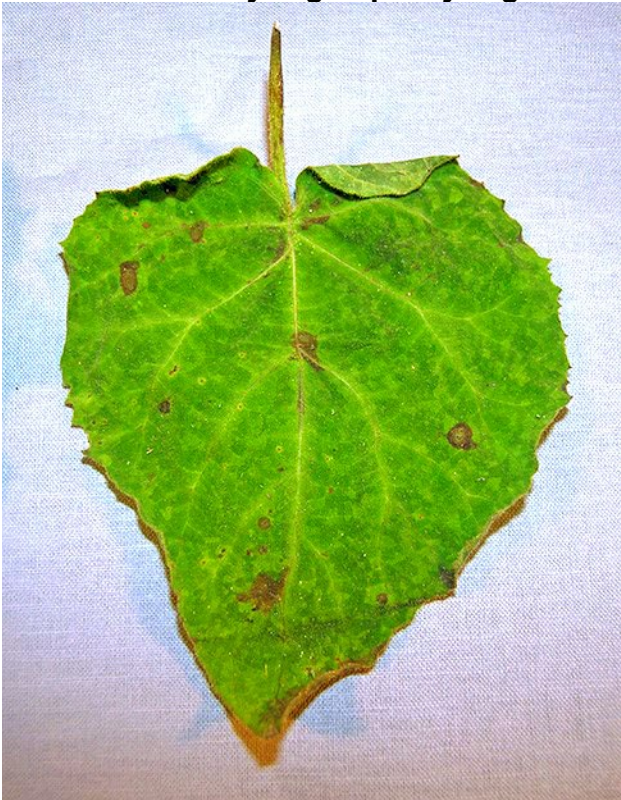


Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Princess Tree Bacterial leaf spot-
Pseudomonas syringae* pv. *syringae



**Photo by Sherrie Smith, University of Arkansas
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This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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