

Lilac disorder: Bacterial blight

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All lilacs are susceptible to bacterial blight, but white-flowered varieties are more susceptible than varieties with colored flowers. Numerous other plant species also host bacterial blight. They include walnut, apple, pear, plum, cherry, bean, lemon, vetch, corn, sorghum, cowpea, clover, and millet.

Symptoms and effects

Lilacs infected with this disease suffer early dieback and blight of the young terminal shoots. The bacterial blight organism attacks the shoots while they develop in early spring, causing brown spots on the leaves, petioles, and stems. At first, the spots on the leaves are olive green and water-soaked. Later, they turn brown with yellow margins and may be sparse or abundant. Immature leaves turn black and die quickly. On older

leaves, the spots enlarge slowly and in many cases remain single and distinct. Infection of young twigs causes girdling and blackens infected areas. The shoots bend over at the lesion, and the part above it withers and dies. The blossoms become limp, dark brown, and blighted.

Bacterial blight can be confused in the field with a number of other diseases and problems including Botrytis blight, Phytophthora blight, and frost injury. However, there are no leaf lesions with these problems.

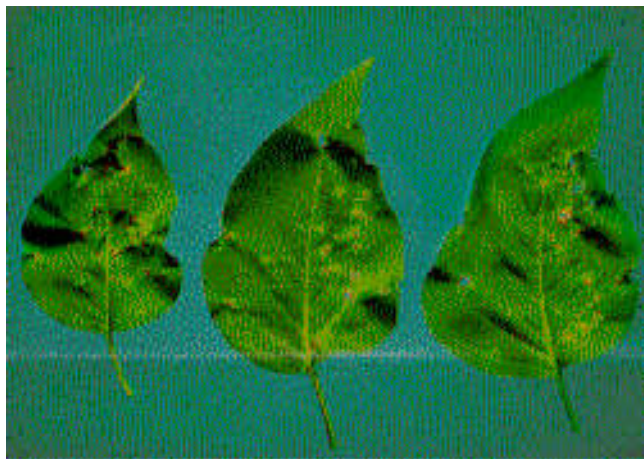
You can identify Botrytis by placing moistened infected tissue in a covered glass dish for a day, then looking for a gray mold, which is typical of the fungus.

Phytophthora blight may attack sprouts that arise from roots under the bush. Affected shoots often die back to the ground and may resemble the blackened shoots caused by bacterial blight. The blight-causing bacterium itself can increase frost injury to vegetation. Living as an epiphyte on the surface of the foliage, it can serve as a nucleus where ice collects.

A plant disease diagnostic laboratory can confirm your field diagnosis. Contact your county Extension office for help in submitting a specimen.



Blackened shoot tips and distorted leaves indicate bacterial blight on these lilac branches.



Lilac leaves with typical lesions caused by bacterial blight. The spots have brown centers and wide yellow margins.

Cause

The bacterium *Pseudomonas syringae* causes this blight. It overwinters in lilac buds, old leaves, infected plant debris, and on the hosts listed above. There is considerable variability among strains of the bacterium, and no single strain will infect all hosts. A strain inciting canker of cultivated blueberry, for example, does not infect cherry but does cause bacterial blight in lilac.

Bacterial blight of lilac develops only during cool, wet weather. The bacterium is spread by wind-driven rain and splashing water. The disease is evident in spring as young shoots develop.

The bacterium penetrates the host through natural openings, such as stomata and lenticels, or through wounds caused by insects, pruning or hail. Frost injury is also a predisposing factor.

Control

Cultural

Prune blighted shoots as they appear, then burn them. Cut into healthy tissue below the branch using sterilized tools. Swab the pruning tools with 70% alcohol between cuts. Prune shrubs annually to promote good air circulation. Control weeds. Avoid excessive applications of manure or high-nitrogen fertilizers.

Chemical

You may need to supplement cultural control measures with chemical treatments in areas where the disease has been serious, particularly in nurseries. Begin a spray program in early May, before the symptoms develop and when lilac leaves start unfolding. Treating plants three times at 7- to 10-day intervals, should provide adequate control. Bordeaux mixture can be used, although a combination of mancozeb (such as Fore or Dithane M-45) with a copper-containing product (such as Kocide) may give better control. Complete coverage of the foliage and twigs is necessary, so use a high-pressure sprayer and add a spreader-sticker to the solution. Treatments are not necessary in dry periods.

References to products in this publication are for your convenience and are not an endorsement of one product over other similar products. You are responsible for using chemicals according to the manufacturer's current label directions. Follow directions exactly to protect the environment and people from chemical exposure.

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