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Plant Diseases

Bacterial Spot of Peach

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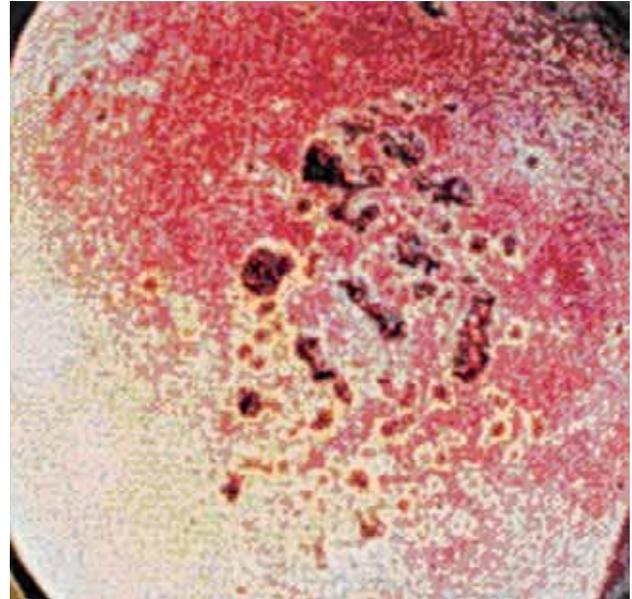
Bacterial spot, known also as bacteriosis, bacterial shothole, or shothole, is caused by the bacterium *Xanthomonas campestris* pv. *pruni*. Although primarily a peach and nectarine problem, this disease also occurs on apricots, plums and, to a lesser degree, cherries.

Losses due to bacterial spot occur from affected fruit and from the devitalization of trees caused by frequent defoliation. Such weakened trees are more subject to winter injury. Losses are greatest in light, low-fertility soils. Trees low in vigor are more susceptible to bacterial spot than vigorous trees.

Symptoms

Numerous small spots form on the leaves. The spots are angular, purple to purplish-brown or black. Spots may merge and the centers may fall out, giving the characteristic "shothole" appearance. Heavily infected leaves turn yellow and drop. Severe leaf loss early in the summer reduces fruit size and weakens the tree. A few lesions can result in severe defoliation on sensitive varieties; tolerant varieties may require many more lesions for defoliation.

On fruits, tiny water-soaked, sunken spots form. The spots enlarge and merge to cover large, irregular areas. As the fruit grows, cracking or pitting occurs in the lesions. The brown rot fungus can easily enter these cracks and become established. Every effort to control brown rot should be made when deep bacterial spots form on fruits.



The bacterial spot organism infects only current-season growth. On twigs, two types of cankers form. "Summer cankers" develop on green twigs, usually after leaf spots are evident. The lesions begin as water-soaked, purplish spots between the nodes. The cankers enlarge, become slightly sunken and are circular to elliptical in shape. Cankers caused by the peach scab fungus are similar, but scab cankers are slightly raised.



Infections that occur late in the year on young, succulent twigs show up as “spring cankers” the following spring. These cankers, which tend to appear at buds or nodes about the time the first leaves appear, are water-soaked and slightly darkened. As the season progresses, the epidermis over the lesion ruptures, releasing the bacteria.

Disease Cycle

The bacterial spot organism over-winters in peach twigs infected late in the summer. These infections are not visible until spring, when they are referred to as “spring cankers.”

Bacteria are released from cankers in an ooze, and the bacteria are spread to other tissues by rain and insects. The bacteria infect expanding leaves, green fruit and current-year twigs. Penetration occurs through stomata or lenticels when surface moisture is present.

Repeated infections will occur throughout the growing season if environmental conditions are favorable. Severe disease is more apt to occur during warm weather with frequent rains. The disease makes little progress during summer weather that is hot and dry.

In late summer and fall, bacteria are carried to young succulent stems. Cankers resulting from these late infections do not appear until spring, when they produce inoculum for early spring disease development.

Control

Bacterial spot is very difficult to control during rainy seasons. No entirely satisfactory control method is known. Homeowners are particularly limited as to chemicals available to them for bacterial spot control.

Proper cultural practices are important in minimizing this disease.

1. Resistance to bacterial spot should be a primary consideration in peach varietal selection. Some of the more resistant varieties include Bell of Georgia, Biscoe, Harken, Loring, Madison, Ranger, Redhaven, Redskin and Sunhaven. Very susceptible varieties include Elberta, July Elberta, Halehaven, Rio-Oso-Gem and Sunhigh.
2. Vigorous trees are less susceptible to the disease than weak, neglected trees. Fertilize according to a soil test, to maintain vigorous, but not excessive, shoot growth.
3. Allow for good air circulation by avoiding low-lying orchard sites and by adhering to correct pruning practices. Prune during dry weather in the latter part of the dormant season.
4. Chemical spray applications may provide some suppression of bacterial spot. Use dodine 65 WP plus Captan 50 WP (1/2 lb. plus 1 lb. per 100 gal. water). Observe label precautions, as this mixture can cause injury under certain conditions. Mycoshield at 12 oz. per 100 gal. is probably a more effective treatment. Mycoshield should be tank mixed with sulphur (6 lbs. per 100 gal.) or Captan (2 lb. per 100 gal.) for broad spectrum disease control. Bacterial spot sprays should be initiated at shuck-split and repeated at seven-day intervals through cover sprays. Observe harvest restrictions.

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee.

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