

Phony Peach Disease

Kevin Ong, Associate Professor and Extension Plant Pathologist
 Corinne Rhodes, Extension Assistant*

Phony peach disease (PPD) is caused by a bacterium (*Xylella fastidiosa*) that spreads through the xylem (vessels that transport water and nutrients) of many plant species. Leafhopper insects transmit it. Though many infected plant species show no symptoms, it is a serious disease of peaches and several other hosts. Strains of the *X. fastidiosa* bacterium can cause bacterial leaf scorch in oak, elm, maple, and sycamore trees; Pierce's disease in grapes; and citrus variegated chlorosis (yellowing) in citrus.

PPD outbreaks in the southeastern United States can determine the production life of a peach orchard. First observed in 1900 in Georgia, PPD spread to Texas by 1933. The bacterium is still common in Texas, but many strains exist and only particular ones cause disease on peaches.

Symptoms

- PPD symptoms are usually not visible until 18 months or more after infection.
- Infected trees grow more compact and bushy because the internodes and terminal growth are shortened (Fig. 1).
- Foliage is often dark green and sheds later than usual in the fall.
- Bloom and fruit ripening occur several days earlier than normal, and the size, quantity, and quality of the fruit is reduced.
- The xylem of infected woody tissues has a black discoloration.



Figure 1. Peach tree with compact, bushy growth habit.

- Trees infected before maturity never bear fruit and those infected after maturity stop producing marketable fruit around 2 to 4 years after the initial symptoms appear.
- Bacterial leaf scorch begins as a tan discoloration around the leaf margin and gradually extends inward. Leaf scorch symptoms do not occur on peaches, but can appear on other stone fruits such as plums and almonds. Plums can also serve as asymptomatic disease carriers.

Transmission

Within the leafhopper family (Cicadellidae), the sharpshooters subgroup (tribe Proconiini) is the primary disease vector (carrier that transmits the disease), and the glassy-winged sharpshooter (*Homalodisca vitripennis*) (Fig. 2) is particularly efficient.

*Texas A&M AgriLife Extension Service, The Texas A&M University System



Figure 2. *Homalodisca vitripennis* (glassy-winged sharpshooter). Photo credit: *H. vitripennis* image: Johnny N. Dell, Bugwood.org

Peaches are not the preferred host of most leafhoppers, but heavy vector populations can lead to high PPD infection rates in peach orchards. Peak populations of glassy-winged sharpshooters occur at the end of May.

Vector insects get the bacterium while feeding on an infected host plant. Once infected, they are capable of transmitting the bacterium for the rest of their lives.

The bacterium spreads throughout the xylem of the tree, both above and below ground. Root grafts that develop between adjacent trees are another way the disease spreads.

Control

Controlling PPD is difficult because many of the plants the bacterium can infect display no symptoms and using insecticides against leafhoppers is not very effective. Some recommended strategies include

- Removing infected trees from orchards that are 2 to 5 years old to extend the orchard's production life.
- Refraining from summer pruning to ensure that PPD symptoms are recognized and to prevent the growth of vigorous new foliage that attracts leafhoppers.
- Removing nearby wild stone fruit species (*Prunus* spp) so that leafhoppers will not transmit PPD strains from these plants to the orchard.
- Controlling weeds to reduce the number and diversity of leafhoppers in the orchard.

Acknowledgment

An earlier version of this publication was co-authored by Molly Giesbrecht.

Extension Plant Pathology
<http://plantclinic.tamu.edu>

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M AgriLife Extension Service is implied.

Texas A&M AgriLife Extension Service

AgriLifeExtension.tamu.edu

More Extension publications can be found at AgriLifeBookstore.org

Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, sex, religion, national origin, age, disability, genetic information, or veteran status.

The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.