

Pierce's Disease and Its Vectors: Monitor for Sharpshooters

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VINEYARD TEAM
Promoting Sustainable Winegrowing



Symptoms of Pierce's Disease.



Blue-green sharpshooter.



GWSS adult and nymph.

What is Pierce's Disease (PD)?

Pierce's disease is caused by the bacteria *Xylella fastidiosa* (*Xf*). The bacteria live in the xylem tissue and eventually block water and nutrients from moving inside the plant.

PD Symptoms

There are **four primary symptoms** of PD:

- Stunted shoot growth in spring.
- Leaf margins turn yellow or red. The margins then burn.
- Clusters shrivel.
- Dried leaf blades separate from the petiole leaving the petiole still attached to the cane.
- Wood on new canes does not mature evenly leaving green patches surrounded by mature bark.

Infected vines will not necessarily show all of these symptoms.

Progress of the Disease

PD can progress from initial infection to complete vine death in less than five years.

How is PD Spread?

Xf is found in many plants in California.

Sap-sucking insects, like **sharpshooters**, take in *Xf* when feeding on one plant and then transmit it when they feed on an uninfected plant.

Vectors: Blue-green sharpshooter

- The **Blue-green sharpshooter** (BGSS) is approximately $\frac{1}{4}$ inch in length.
- BGSS are highly effective at moving the *Xf* bacteria between host plants in the environment and grapevines.
- BGSS live and reproduce in riparian areas and travel into vineyards to feed.
- BGSS are not associated with vine-to-vine spread of PD.

Vectors: Glassy-winged sharpshooter

- The **Glassy-winged sharpshooter** (GWSS) is approximately $\frac{1}{2}$ inch in length.
- GWSS are inefficient at transmitting the bacteria, but they feed at a much higher rate than other vectors more than making up for their inefficiency.
- GWSS are associated with vine-to-vine transfer of PD making the spread of PD much more rapid and extensive.
- A wide range of crop, wild, and landscape plants are feeding and/or breeding hosts of GWSS.

- Multiple counties in Southern California are infested with GWSS and counties along the coast and in the Central Valley are considered at risk for infestation.

Other Vectors

The Willow sharpshooter, Green sharpshooter, Red-headed sharpshooter, and Meadow spittle bug are also known vectors of PD, but they are less effective at transmitting the disease than GWSS and BGSS.

Scouting for PD

Flag vines with PD symptoms. The vine will decline rapidly if it is infected with *Xf*.

Monitoring for Blue-green sharpshooter

Budbreak to May

- Place yellow sticky cards (4"X7") every 100-200 feet along wooded areas, riparian areas, and ornamental landscape.
- Check the traps weekly.
- Record the number of BGSS adults.

Mid-April through July

- Scout along the edges of the vineyard for BGSS nymphs using a sweep net on likely host plants.

Monitoring for Glassy-winged sharpshooter

Budbreak through November

- Place yellow sticky cards (5.5"X9") every 100-200 feet along wooded areas, riparian areas, and ornamental landscape.
- Check the traps weekly.
- If you believe you have caught a GWSS contact your local Agricultural Commissioner's Office and UC Cooperative Extension.

Helpful Resources:

[UC ANR Publication: Pierce's Disease](#)

[News and Research about Pierce's Disease](#)

[UC Statewide IPM Guidelines for Pierce's Disease](#)

[Photos of Pierce's Disease symptoms](#)

[CDFA Pierce's Disease Control Program](#)

[GWSS Host List](#)

[GWSS Brochure English](#)

[GWSS Brochure Spanish](#)