

# 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 do not transmit the bacteria from vine to vine.

## 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.
- Unlike other sharpshooters, they are also capable of transmitting the bacteria from vine to vine 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.

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### **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](#)