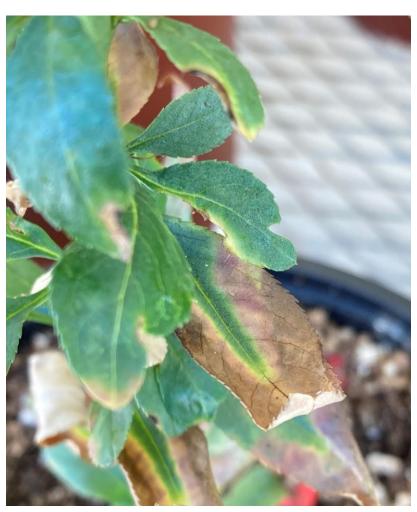


## Xylella fastidiosa subspecies fastidiosa and multiplex are common in California







Almond Leaf Scorch

## *Xylella fastidiosa* subspecies *pauca* – never been found in North America



# California has several known vectors of *Xylella fastidiosa*

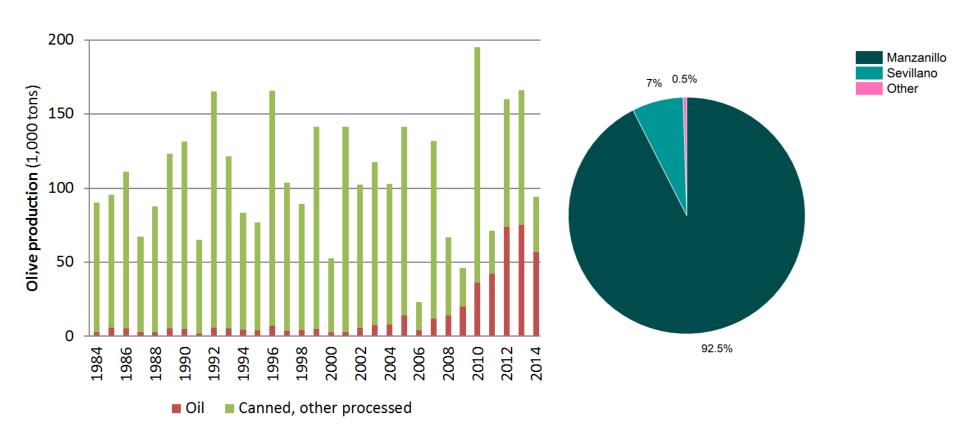


Project goal: evaluate risk to California olive production if olive-pathogenic strains were introduced

Objective 1: Evaluate whether olive cultivars
Mission, Manzanillo, Sevillano are susceptible to
European Xylella fastidiosa strain 'DeDonno'

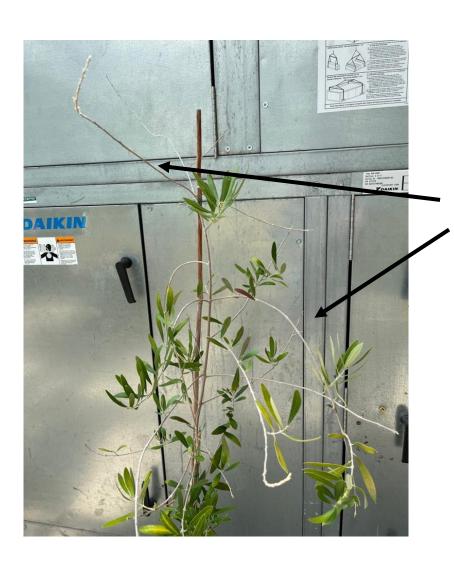
 Objective 2: Test whether Glassy-winged sharpshooter is a potential vector for Xylella fastidiosa in olive

# Small number of cultivars produce most table olives grown in California



Most popular cultivars in California were brought to the area before 1905 – primarily cultivated for table olive

## All cultivars tested can develop disease from *Xylella fastidiosa* 'DeDonno'



Manzanillo Sevillano

Mission – table and oil variety

Die back



Leaf necrosis

Project goal: evaluate risk to California olive production if olive-pathogenic strains were introduced

Objective 1: Evaluate whether olive cultivars
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 Objective 2: Test whether Glassy-winged sharpshooter is a potential vector for Xylella fastidiosa in olive

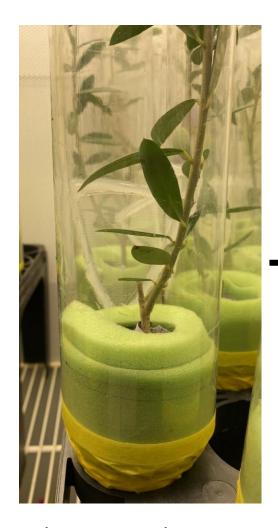
### Glassy-winged sharpshooter is an invasive vector in California

#### Pierce's Disease and Glassy-winged Sharpshooter in California





2022 top olive producing counties (NASS)



Glassy-winged sharpshooters caged on olive seedlings infected with Xf 'DeDonno' strain



After 3 days insects are removed tested for Xf



3 cultivars: Sevillano, Manzanillo, Mission

15 plants per cultivar

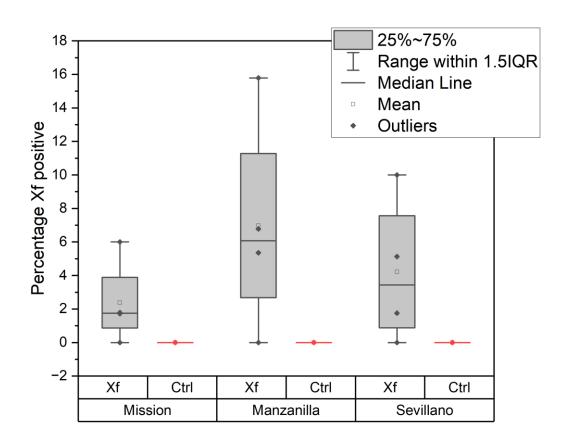
2 GWSS per plant (~30 insects tested per cultivar/timepoint)

4 timepoints: 30, 60, 90, 180 days after inoculation

2 experimental replicates – separate sets of

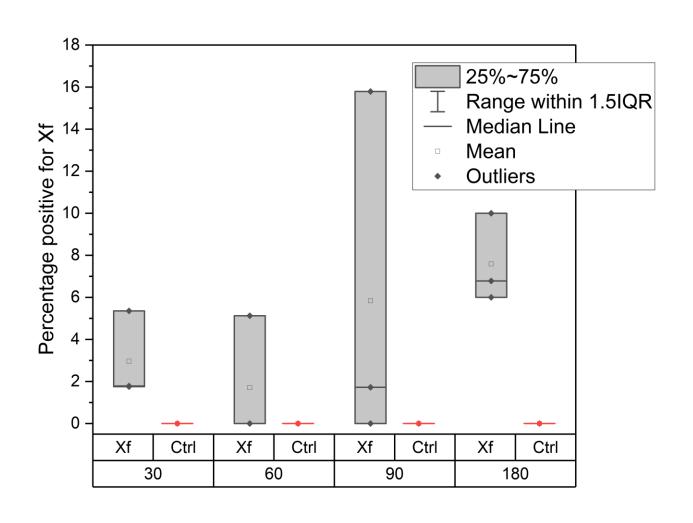
inoculated plants

# Glassy-winged sharpshooters can acquire *Xylella fastidiosa* from infected olive plants



Overall acquisition rate across all timepoints and cultivars was 4%

# Acquisition occurred from seedlings 30 days after inoculation with *Xylella fastidiosa*



## In conclusion....

- Olive pathogenic strains of *Xylella fastidiosa* from Europe can cause disease in California ripe olive cultivars
- Insects present in California (GWSS) can act as vectors of Xylella fastidiosa in olive
- If Xylella fastidiosa subsp. pauca were introduced to California it could create disease problems for the olive industry

## Thank you!

### California Olive Committee





Specialty Crop Block Grant Program