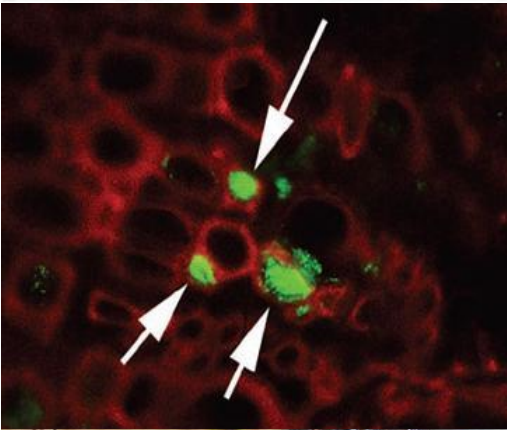
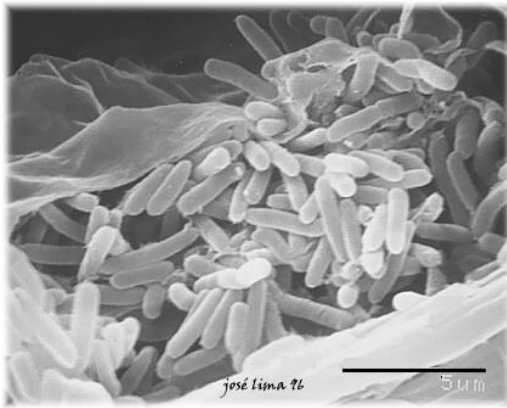


Scouting for Pierce's disease



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Xylella fastidiosa occludes xylem vessels leading to progressively worsening symptoms:

- raisined clusters
- leaf scorch
- “matchstick” petioles
- irregular cane maturation, “green islands”
- defoliation/dieback
- delayed shoot elongation
- vine death

Removal of infected vines is important to reduce pathogen spread

Pierce's disease



Progression leaf scorch

Starts at the tips (and in lobes for red varieties)

Necrosis and orange/red/purple color bands (esp. red varieties)

Over time becomes apparent over majority of leaf blade

Entire leaf blade dies, leaving behind petiole





A lot of variability in symptom expression

Cultivars (esp. reds vs whites)

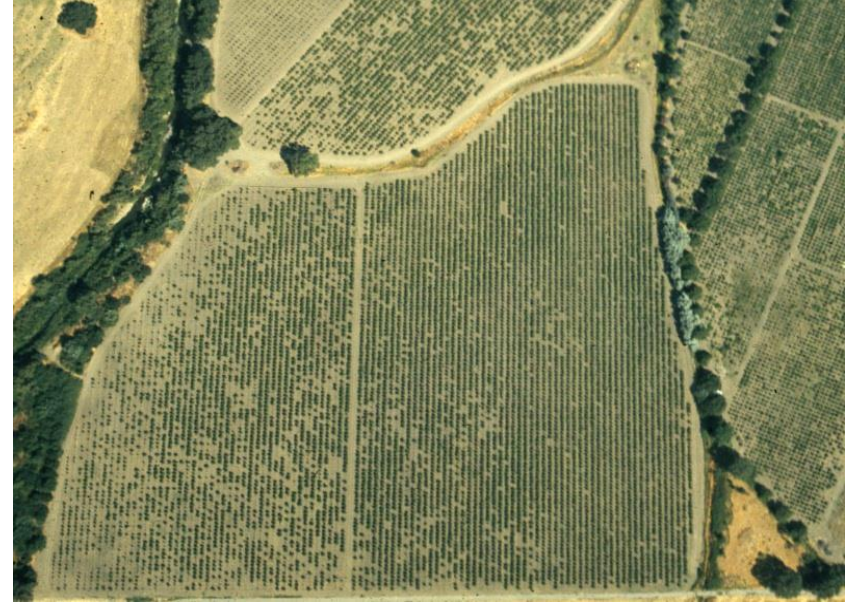
Vine age

Water stress / irrigation

Soils, nutrients



Xylella / PD can be very patchy



Localized to certain parts of a vine

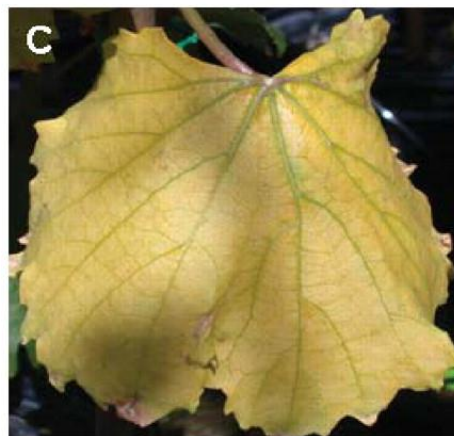
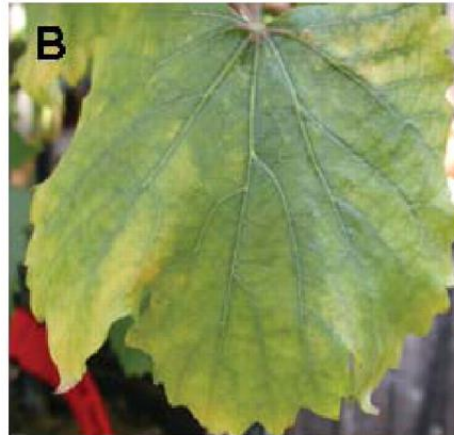
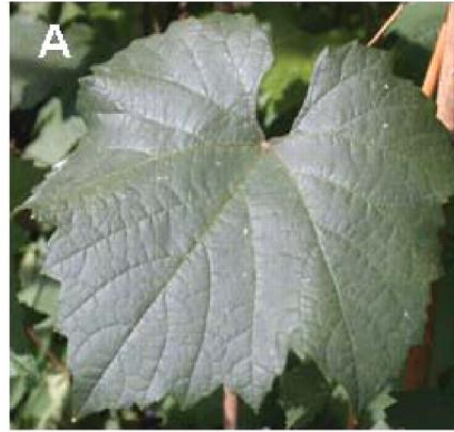
Patches of PD in certain parts of vineyard or strong gradients in disease

Can be mistaken for water stress

Damaged shoot

Excess salinity

Nutrient deficiencies



Can be mistaken for water stress

Damaged shoot

Excess salinity

Nutrient deficiencies



Non-*Xylella* diseases of grapevines



Grape measles
(Esca)



Eutypa dieback



Grapevine leafroll disease

Scout for disease in the Fall, when symptoms are strongest

- ideally pre-harvest

Walk each block/variety separately to gauge vine condition, symptom variety



Focus on areas with past PD problems or near known vector sources (e.g., citrus)

Flag vines showing convincing set of PD symptoms for later removal

- 2+ symptoms

Note questionable vines and follow them the next season.