Update: Pierce’s Disease in Oklahoma

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Pierce’s Disease

- Caused by the bacterium *Xylella fastidiosa*
- Results in plugging of the water-conducting elements
- Weak vines and vine death result
Symptoms and Signs

- **Foliar Symptoms**
  - Scorching similar to drought
  - Browning from the edges, red to yellow border between green and brown tissue
  - Match Sticks
  - Green islands on canes

- **Fruit Symptoms**
  - Shriveled
  - Small
  - No fruit

- **Signs (Xylella fastidiosa)**
  - Species is comprised of subspecies
  - None visible (bacterium)
Pierce’s Disease

- Very difficult to control once vineyard is infested
- Infested planting stock thought to play a major role in initial infestation in OK
- Transmitted by leafhoppers/sharpshooter s
ODAFF and OSU Surveys
Is It the Correct Strain?

ELM-OK (Elm)
RGW-R (Ragweed)
MUL-3 (Mulberry)
CRS2 (Coffee)
9a5c (Citrus)

Temecula1 (Grape)
Mus 1 (Grape)

Crg-1A-OK (Grape)
Crg-1B-OK (Grape)
Crg-1C-OK (Grape)
Crk-1A-OK (Grape)
Crk-1B-OK (Grape)
Crk-1C-OK (Grape [Merlot])
Crk-2-OK (Grape)
Lnc-2-OK (Grape)
Tulsa-OK (Grape)
Cdn-OK (Grape)

Yes, Closely related to Temecula 1
Risk by Location

Above the black line = Low risk for PD
Below the black line = Moderate risk for PD
Control

- No chemicals
- Buy certified plants
- Avoid plant propagating
- TESTING
- Rogue diseased plants
- Cold curing?
- Control insect vectors?
- Insecticide sprays?
Future Research

• More sampling/surveying in 2010
• Lisa Overall – Graduate student in EPP working with Eric Rebek
  ✓ Vector Survey
  ✓ Are the vectors carrying the bacterium?
  ✓ How well do the vectors transmit the bacterium?
Survey

http://www.surveymonkey.com/s/Y6HQGNV