Fire blight and Western X Disease

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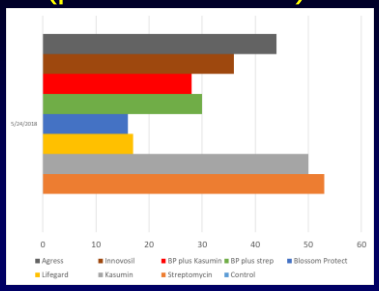
Fire blight trial 2018

- Flower clusters were inoculated 4/30/2018 with *Erwinia amylovora* at full bloom (fire blight risk forecast: extreme)
- One pesticide application per treatment applied 5/1/2018 (fire blight risk forecast: extreme)

Biological control products

Product	April 19	April 25/26	April 28/29
Blossom Protect	X	20% bloom	80-100% bloom
Lifegard	Pink stage	20% bloom	80-100% bloom

Results chemical trial 2018 (percent control)



Fire blight trial 2018

- Blossom Protect did not work as well as in 2016 (74% control in 2016)
- Possibly due to short time from 20% to full bloom
- Bacteria and yeast usually need about a week to establish themselves

Western X disease update

Symptoms

- Foliage may show early fall colors (May or June)
- Pale, small fruit
- Trees die within 2-6 years
- No symptoms on trees of Mahaleb rootstock, trees suddenly collapse and die

Causal agent, transmission and diagnosis

- Phytoplasma species
- Leafhopper (especially cherry (privet) and mountain leafhopper)
- Geminate leafhopper
- Molecular tools (Polymerase chain reaction and DNA sequencing)

Protocol

- Developed a protocol for phytoplasma testing
- Specialty Crop Block grant funded for survey of Western X disease and leafhoppers that transmit it

Survey 2018

- Surveyed peach, tart and sweet cherry orchards
- Collected leaves of symptomatic trees
- Collected leafhoppers with sweep nets

Results

- No Western X disease was found
- So far, we found 10 leafhopper species
  - Macrosteles quadrilineatus, Dikraneura sp., Colladonus montanus, Paraphlepsius sp. and Paraphlepsius irroratus, Ceratagallia uhleri, Muirodelphax atralabis, Euscelis maculipennis, Amblysellus sp. and Psammotettix lividellus

Results

- No Western X disease was found
- So far, we found nine leafhopper species
- Some of the leafhopper we haven't been able to identify to species yet

Leafhopper

Leafhopper

Psammotettix lividellus

- Has been implicated as a vector for 'little cherry disease'.
- Three possible causes for the disease: Little cherry virus 1, Little cherry virus 2 and western X disease

Acknowledgements

- Ryan Davis
- Undergraduate students
- Growers
- SCBG

Thank you for listening

Questions?