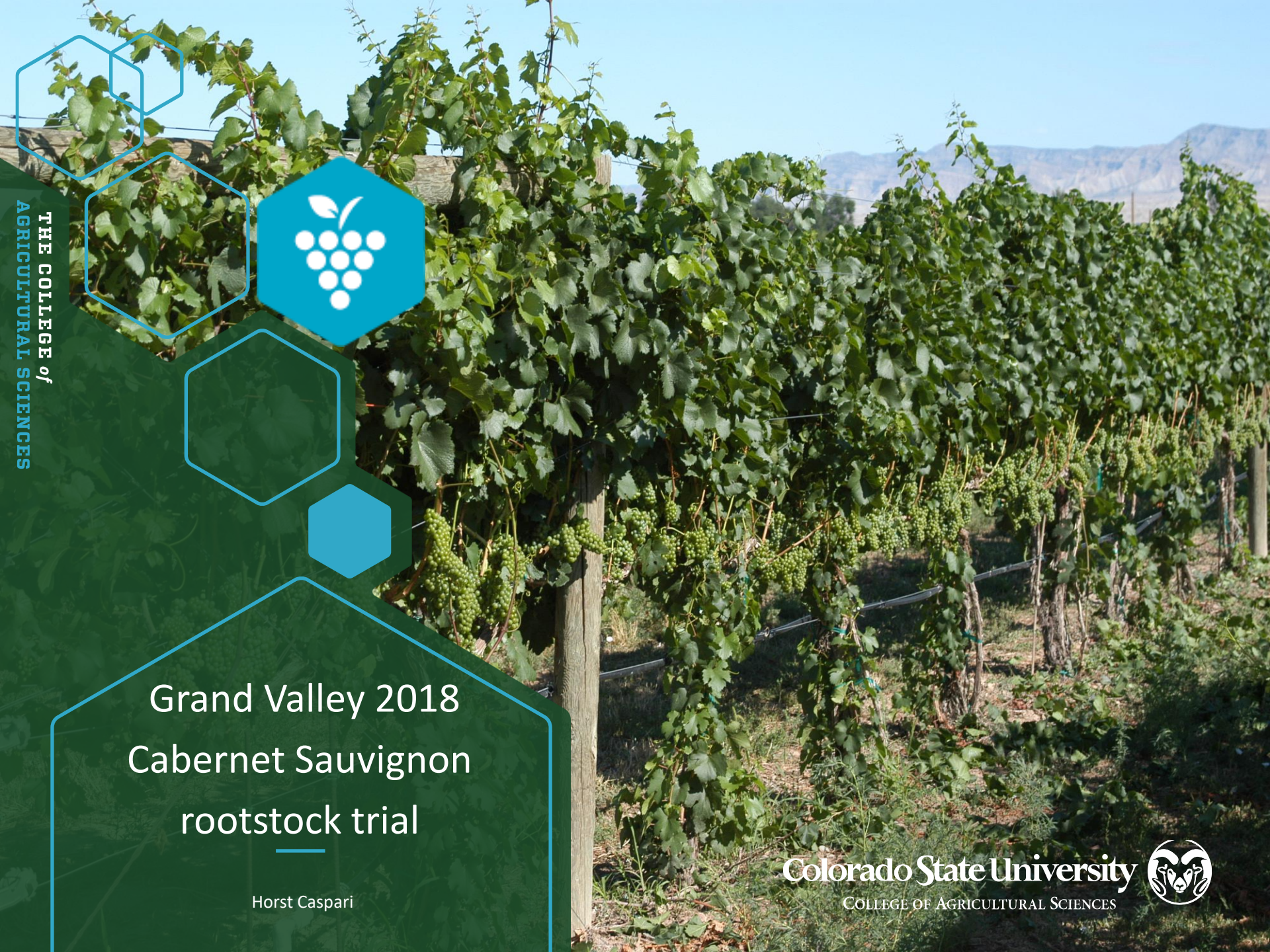

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Grand Valley 2018 Cabernet Sauvignon rootstock trial

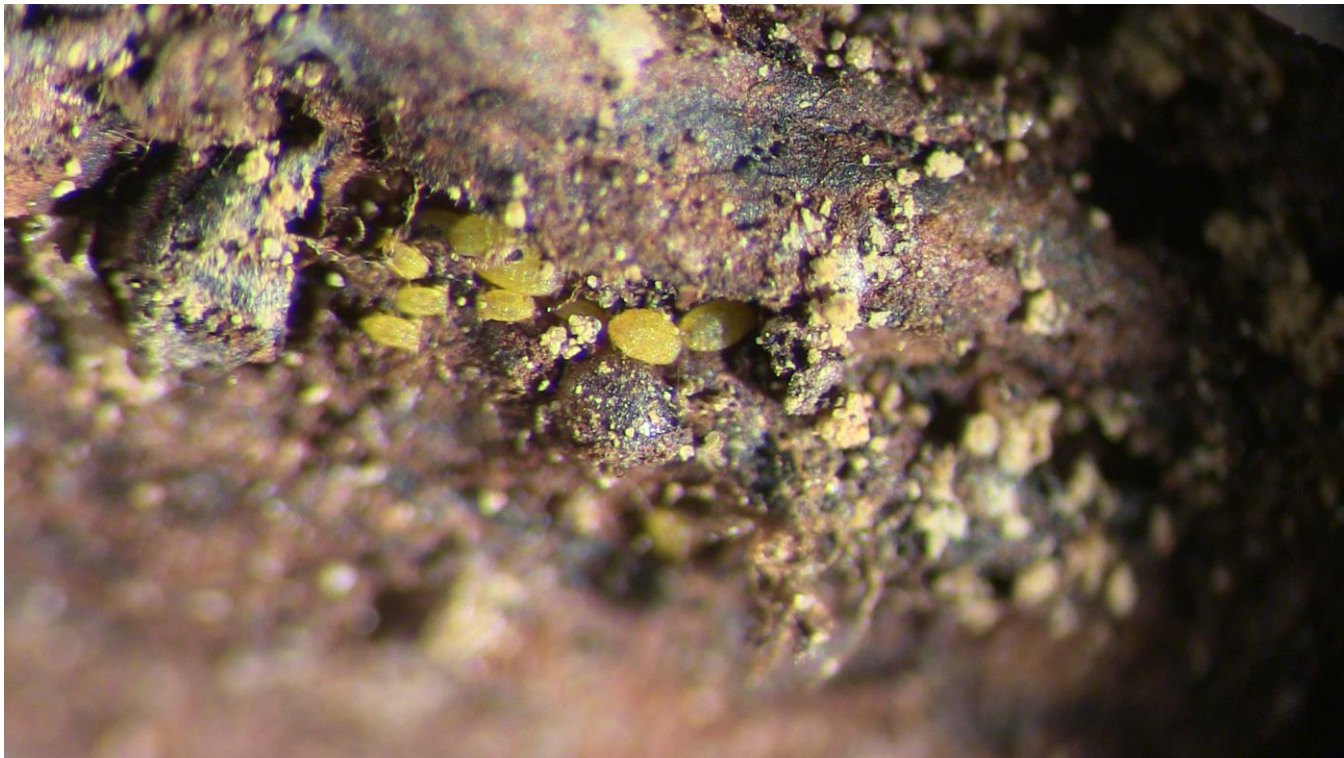
Horst Caspari

Colorado State University
College of Agricultural Sciences

Phylloxera

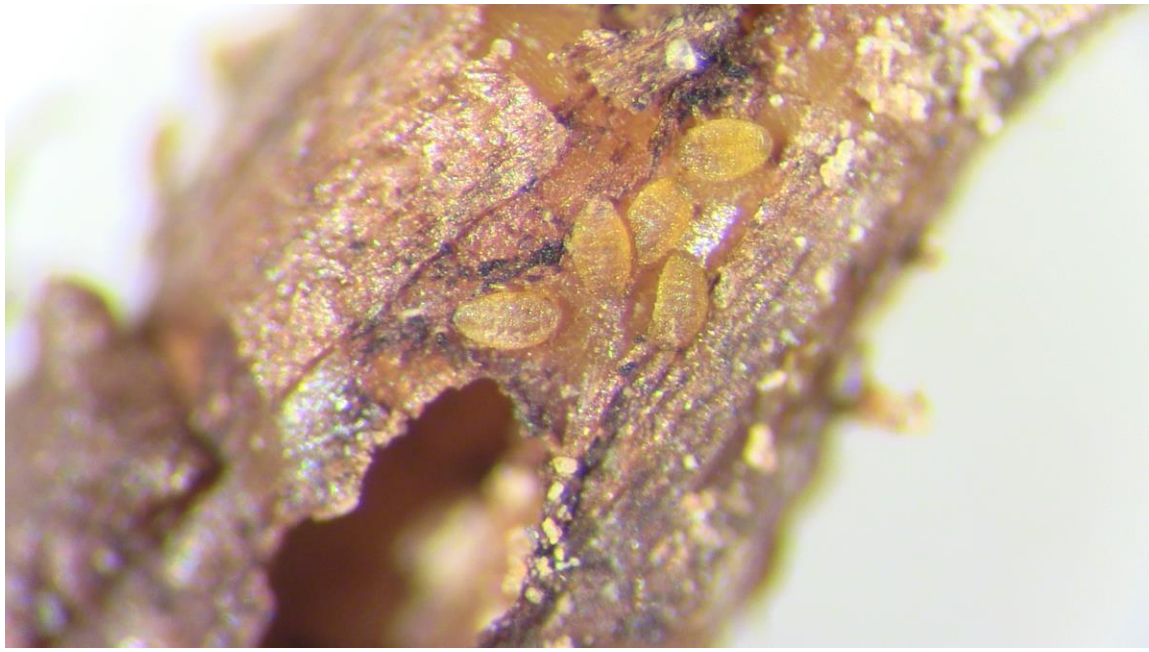
- Grape phylloxera (*Daktulospheira vitifoliae*) is an aphid-like insect that is native to eastern North America

- Phylloxera feeds on roots of grape vines, severely stunting growth of susceptible species, even killing them.



Phylloxera

- *Vitis vinifera*, the European grape species, is highly susceptible to phylloxera.
- Where *Vitis vinifera* varieties are grown in the presence of phylloxera, vines need to be grafted to phylloxera-tolerant rootstocks.



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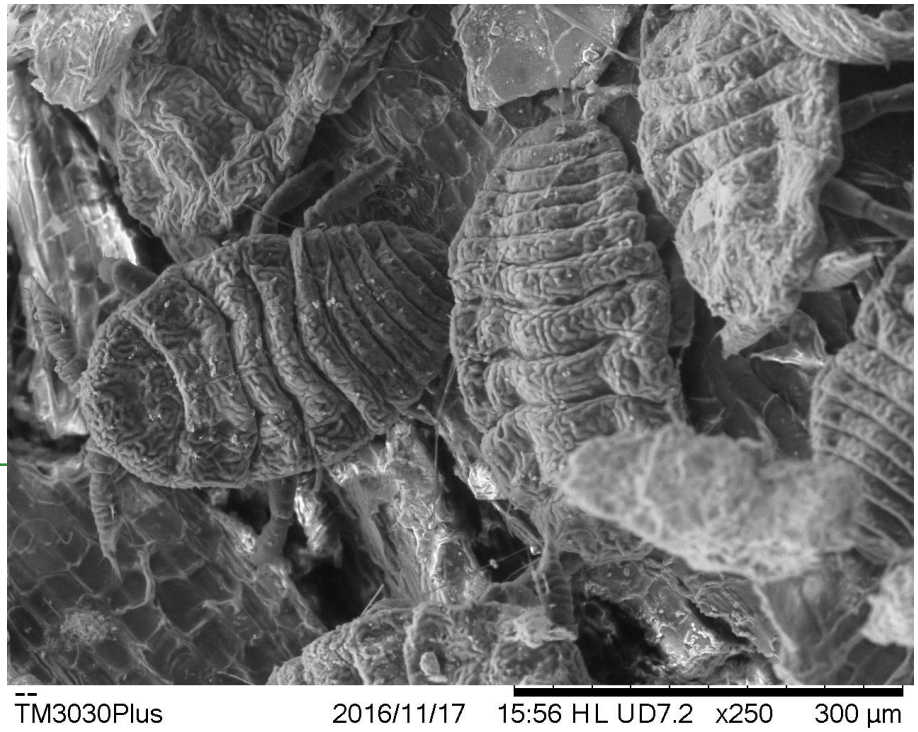
Phylloxera in Colorado

- Until recently, Colorado was free of phylloxera, and most Colorado vineyards are planted with own-rooted *Vitis vinifera* varieties
- In November 2016, the root form of phylloxera was found in a Mesa County *Vitis vinifera* vineyard

Photo by Melissa Franklin, CSU 2017

Phylloxera in Colorado

- Samples were send to Beltsville, MD and positively identified by USDA ARS taxonomists
- Surveys in 2017 and 2018 have shown that phylloxera is present in many of Colorado's grape growing areas



Phylloxera in Colorado

Vineyards found positive for phylloxera

- Mesa County – 15 vineyards
- Delta County – 3 vineyards
- Montrose County – 1 vineyard
- Montezuma County – 0
- Front Range – 2
- Total – 20 positive vineyards

Colorado rootstock trials

Background

- With phylloxera now established in Colorado's main growing areas, vineyards need to be planted with grafted vines

- Information on rootstock performance in Colorado is limited
  - 1993 Chardonnay rootstock trial with four rootstocks
  - 2009 Viognier rootstock trial with 5 rootstocks

Colorado rootstock trials

Background

- New rootstock trials with a range of rootstocks, varieties and in different soil and climatic conditions are needed
- The second new rootstock trial after the discovery of phylloxera with an expanded list of rootstocks was planted in 2018

2018 Cabernet Sauvignon rootstock trial

- Cabernet Sauvignon clone 33
- 11 rootstocks
- Planted in 2018 in a commercial vineyard on Orchard Mesa
- Dormant, potted vines (10 rootstocks)
- Green potted vines of 5C

2018 Cabernet Sauvignon rootstock trial

- Planted 24 May (dormant vines) and 14 June 2018 (green potted vines)
- There was a vine shortage for rootstocks 1616 C and 1103 P
- Missing vines will be planted in spring 2019

2018 Cabernet Sauvignon rootstock trial

- Randomized complete block design with 6 replications
- Four vines per replication
- Row x vine spacing is 9’ x 5’
- Micro sprinkler irrigation

2018 Cabernet Sauvignon rootstock trial

- Soil type is Gyprockmesa clay loam (2 - 5 % slope)

2018 Cabernet Sauvignon rootstock trial

Teleki 5C	*V. berlandieri x V. riparia*
Selektion Oppenheim #4	*V. berlandieri x V. riparia*
110 Richter	*V. berlandieri x V. rupestris*
1103 Paulsen	*V. berlandieri x V. rupestris*
140 Ruggeri	*V. berlandieri x V. rupestris*
Salt Creek	*V. champinii*
Riparia Gloire	*V. riparia*
Schwarzmann	*V. riparia x V. rupestris*
3309 Couderc	*V. riparia x V. rupestris*
101-14 Millardet et de Grasset	*V. riparia x V. rupestris*
1616 Couderc	*V. acerifolia x V. riparia*

2018 Cabernet Sauvignon rootstock trial

- Good vine establishment in 2018 (236 out of 240 vines planted)
- Graft unions were protected by hilling up soil in late fall of 2018
- Soil will be removed again in late spring of 2019

2018 Cabernet Sauvignon rootstock trial

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For more detailed information on this and other research projects please review our Annual Research Reports available on our web page:

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Questions?

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