



Grand Valley 2017 Cabernet Sauvignon rootstock trial

Horst Caspari



Background

- About 95 % of Colorado's vineyard area is planted with own-rooted vines
 - More than 80 % of vineyard area is planted with own-rooted *Vitis vinifera* cultivars
 - In the absence of phylloxera, own-rooted vines have several advantages over grafted vines:
 - less expensive
 - no need to cover trunk base over winter
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Background

- In the presence of phylloxera, own-rooted vines of *Vitis vinifera* will sustain serious root damage and get killed by phylloxera
 - The only viable option to grow *Vitis vinifera* cultivars in the presence of phylloxera is to use phylloxera-tolerant rootstocks
 - Although present in most of the world's grape growing regions, Colorado has been free of phylloxera
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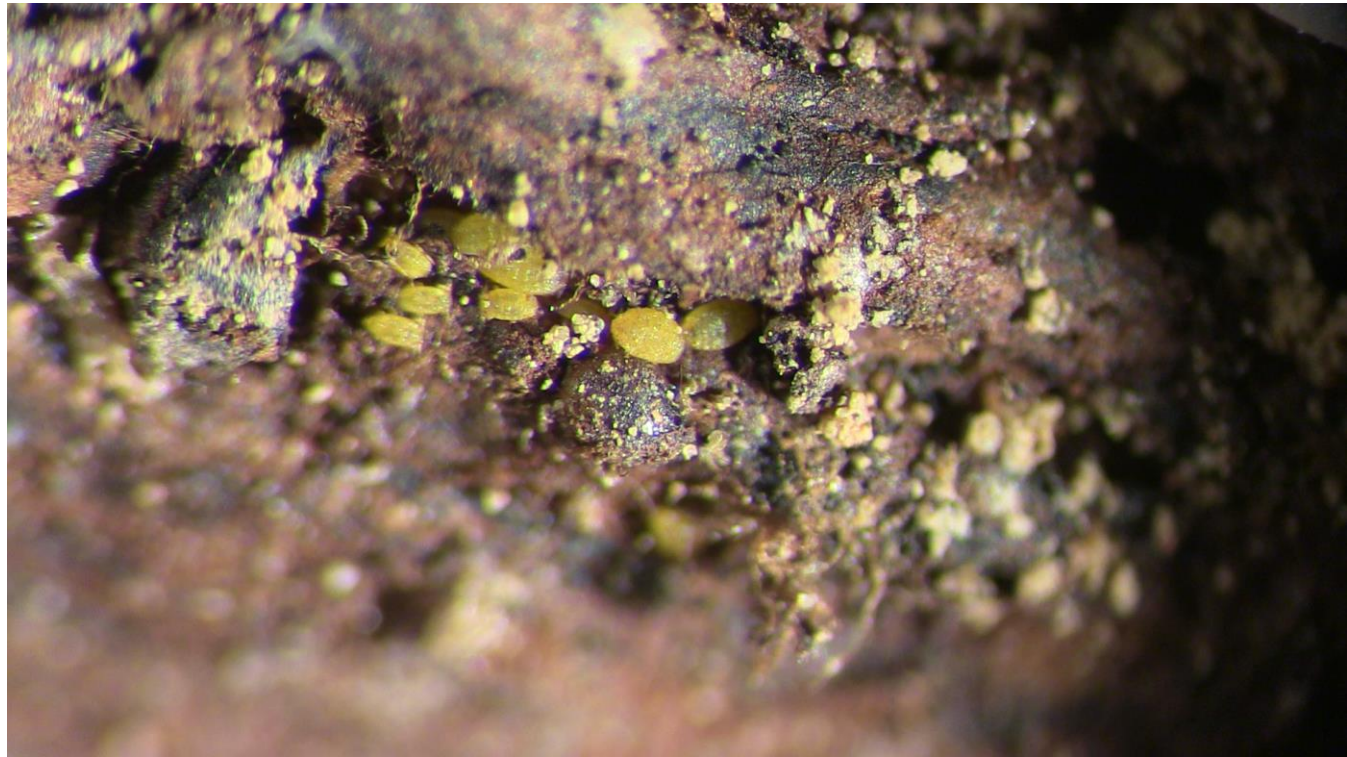
Phylloxera timeline

- In November 2016, the root form of phylloxera was found in a Mesa County *Vitis vinifera* vineyard
- Samples were send to Beltsville, MD and positively identified by USDA ARS taxonomists



Phylloxera timeline

- With financial assistance from CAVE, more vineyards were surveyed in Mesa County between December 2016 and February 2017
- Three more vineyards tested positive for phylloxera



Phylloxera timeline

- More surveys in 2017 were funded through USDA APHIS Cooperative Agricultural Pest Survey program
- A further 15 Colorado vineyards tested positive for phylloxera in 2017



Photo by Melissa Franklin, CSU 2017

Phylloxera survey

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
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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
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Colorado rootstock trials

Background

- New rootstock trials with a range of rootstocks, varieties and in different soil and climatic conditions are needed
 - The first new rootstock trial after the discovery of phylloxera with an expanded list of rootstocks was planted in 2017
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2017 Cabernet Sauvignon rootstock trial

- Cabernet Sauvignon clone 33
 - 11 rootstocks
 - Planted in 2017 in a commercial vineyard on Orchard Mesa
 - Green, potted vines
 - Planted 2 June 2017
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2017 Cabernet Sauvignon rootstock trial

- Randomized complete block design with 5 replications
 - Four to five vines per replication
 - Row x vine spacing is 9' x 5'
 - Micro sprinkler irrigation
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2017 Cabernet Sauvignon rootstock trial

Soil types are

- Gyprockmesa clay loam (2 - 5 % slope)
 - Gyprockmesa gravelly clay loam (2 - 5 % slope)
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2017 Cabernet Sauvignon rootstock trial

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

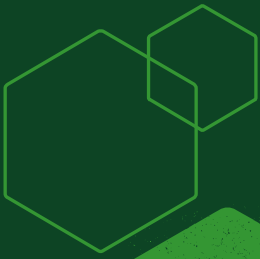


2017 Cabernet Sauvignon rootstock trial

- Good vine establishment in 2017 (255 out of 258 vines planted)
 - Two of the missing vines replaced in the spring of 2018 with leftover vines
 - 253 out of 255 vines planted are alive at the end of the 2018 season
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2017 Cabernet Sauvignon rootstock trial

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





Questions?

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