



Grand Valley 2014 grape variety trial

Horst Caspari



Grand Valley 2014 cold-hardy variety trial

- Near Clifton
 - Planted in 2014
 - High Cordon
 - Sprinkler irrigated with grass/legume cover crop
 - 11 varieties with 6 replications (RCBD)
 - Only 5 replications with La Crescent
 - 4 vines per replication
 - Row x vine spacing is 9'x 5'
 - First harvest in 2016
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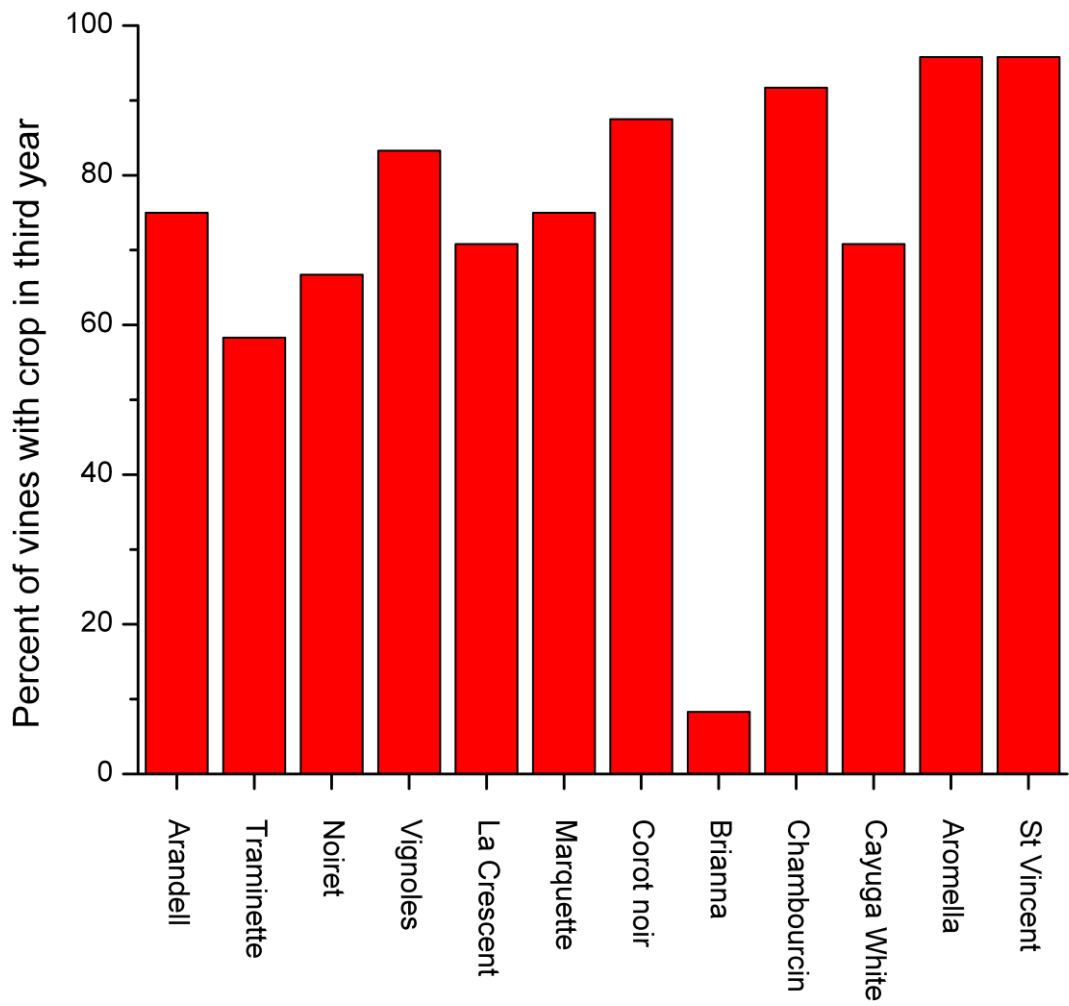
Grand Valley 2014 cold-hardy variety trial

12 Varieties

- Aromella
 - Arandell
 - Brianna
 - Cayuga White
 - Chambourcin
 - Corot noir
 - La Crescent
 - Marquette
 - Noiret
 - St. Vincent
 - Traminette
 - Vignoles
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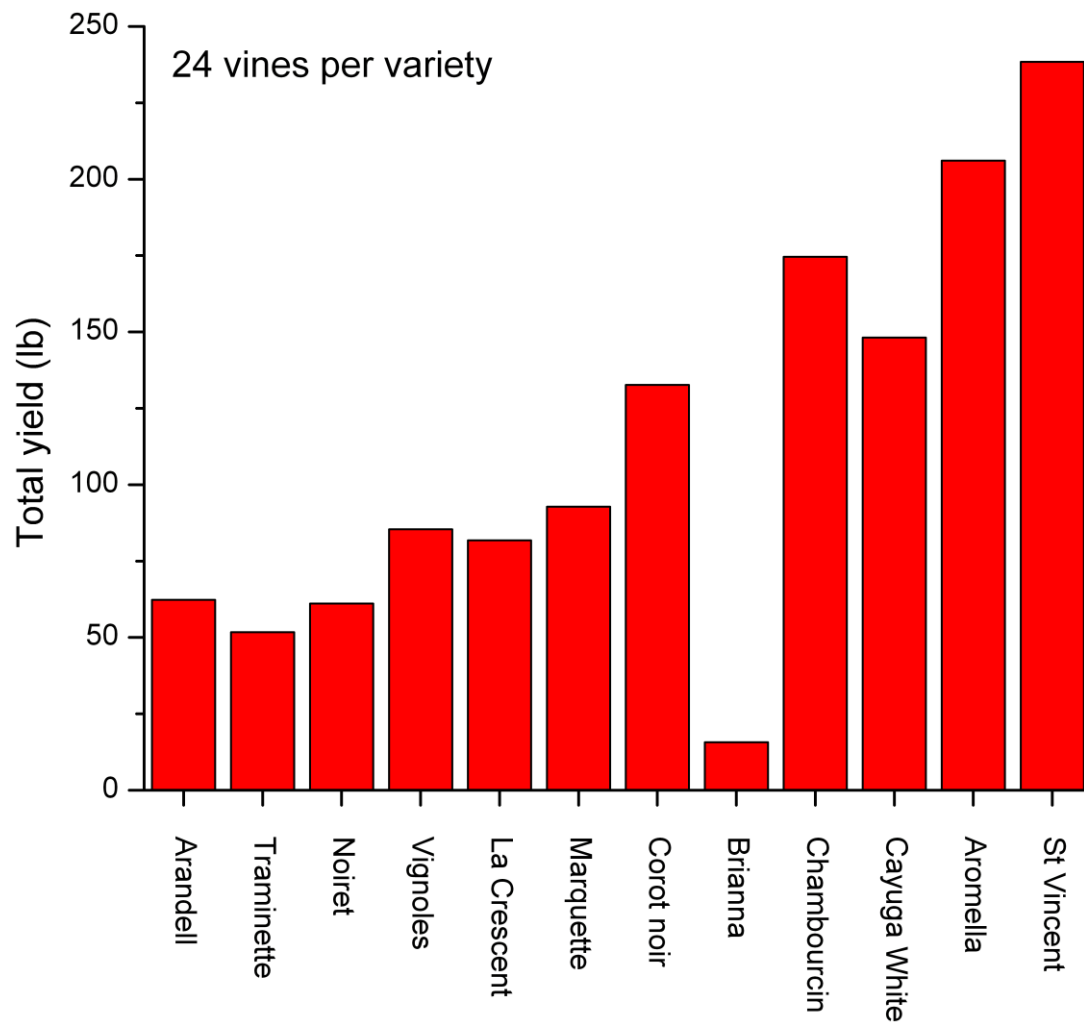


2016 Harvest



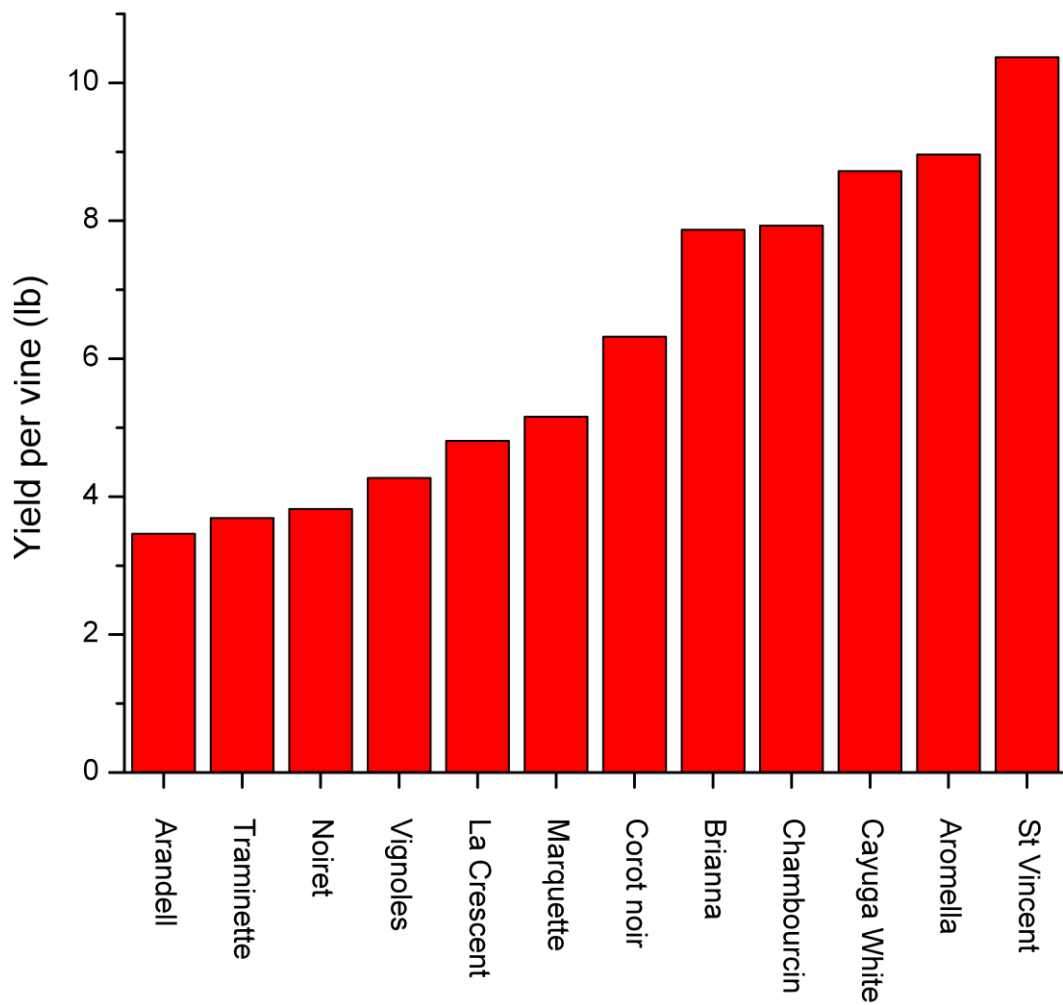


2016 Harvest





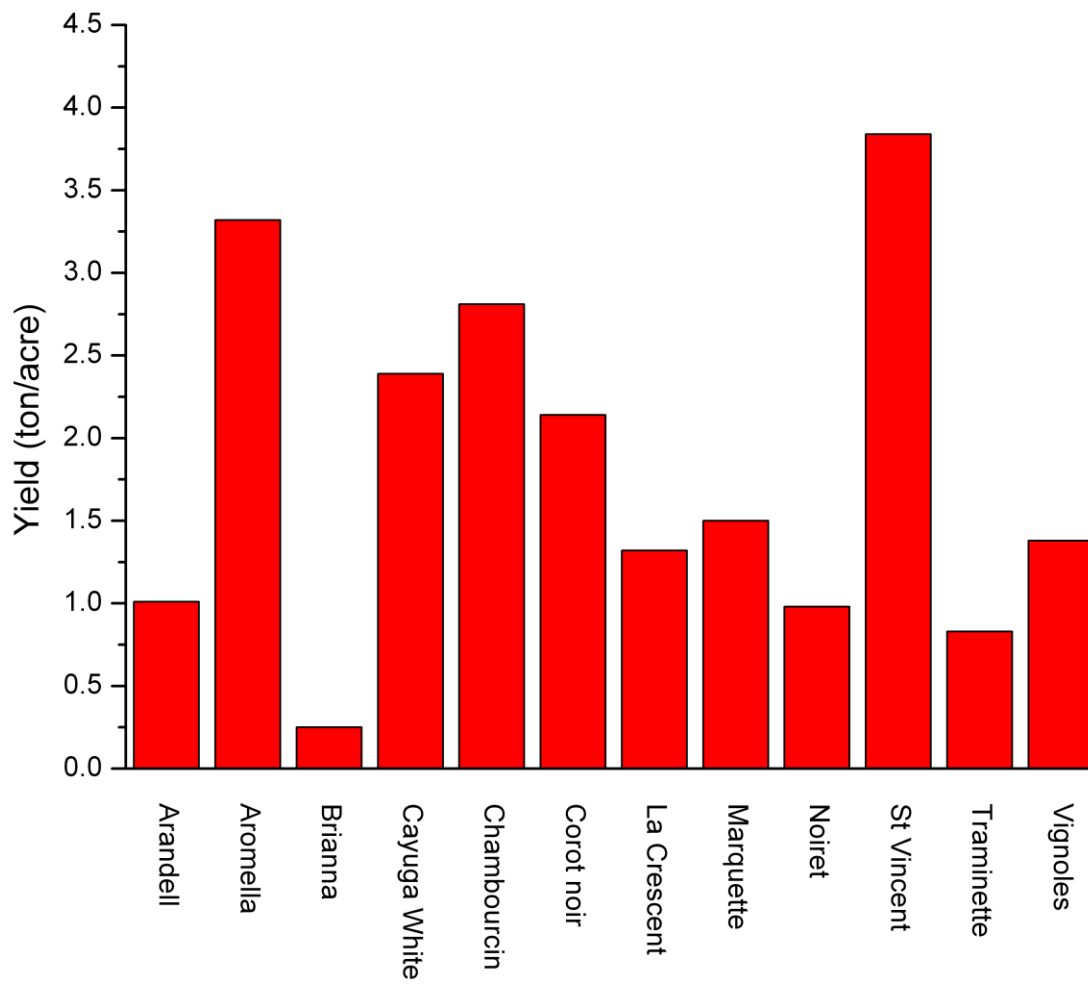
2016 Harvest



Yield data based only on vines with crop



2016 Harvest



Summary 3rd year

The highest total yield:

- St. Vincent
- Aromella
- Cayuga White
- Chambourcin

Brianna had a high yield per vine, but few vines carrying a crop.



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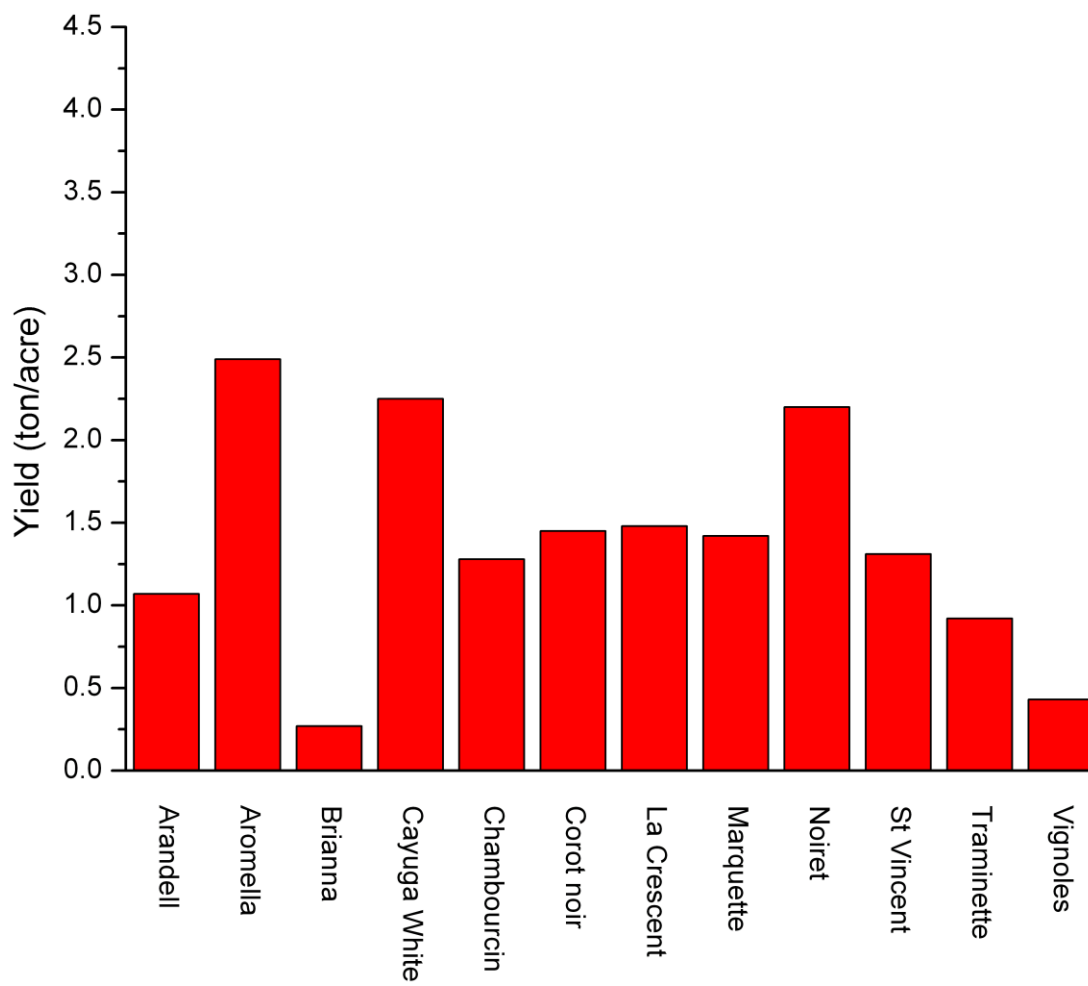
Compared to year 3, the yield per acre more than doubled for Noiret in year 4, but was down for Aromella, Chambourcin, Noiret, St Vincent, and Vignoles.

The low yield with Brianna was due to >90 % bird damage.

Yield of the other varieties was similar in years 3 and 4.



2017 Harvest





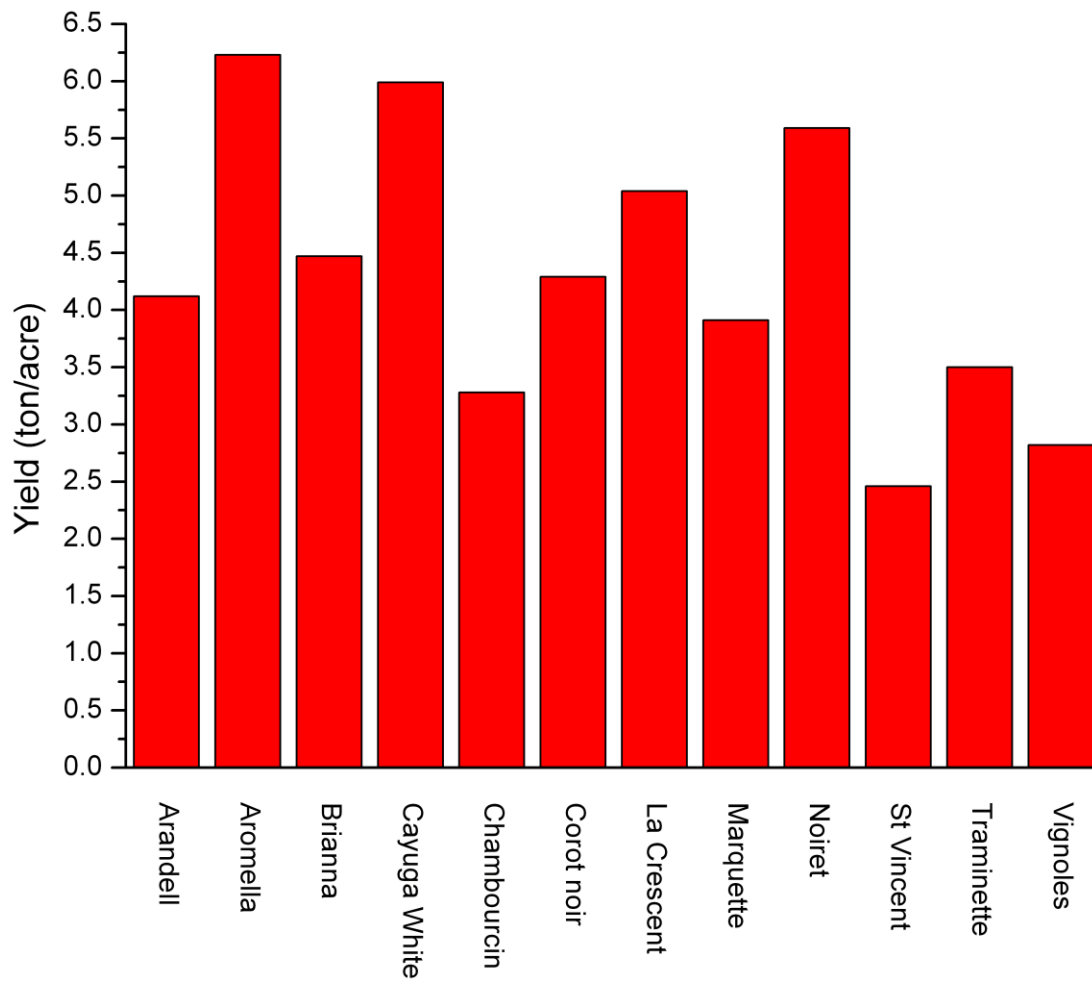
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In year 5, yields increased nearly 3-fold compared to year 4.

Vine mortality is a concern with St Vincent. After 5 years only 50 % of the vines are still alive.



2018 Harvest





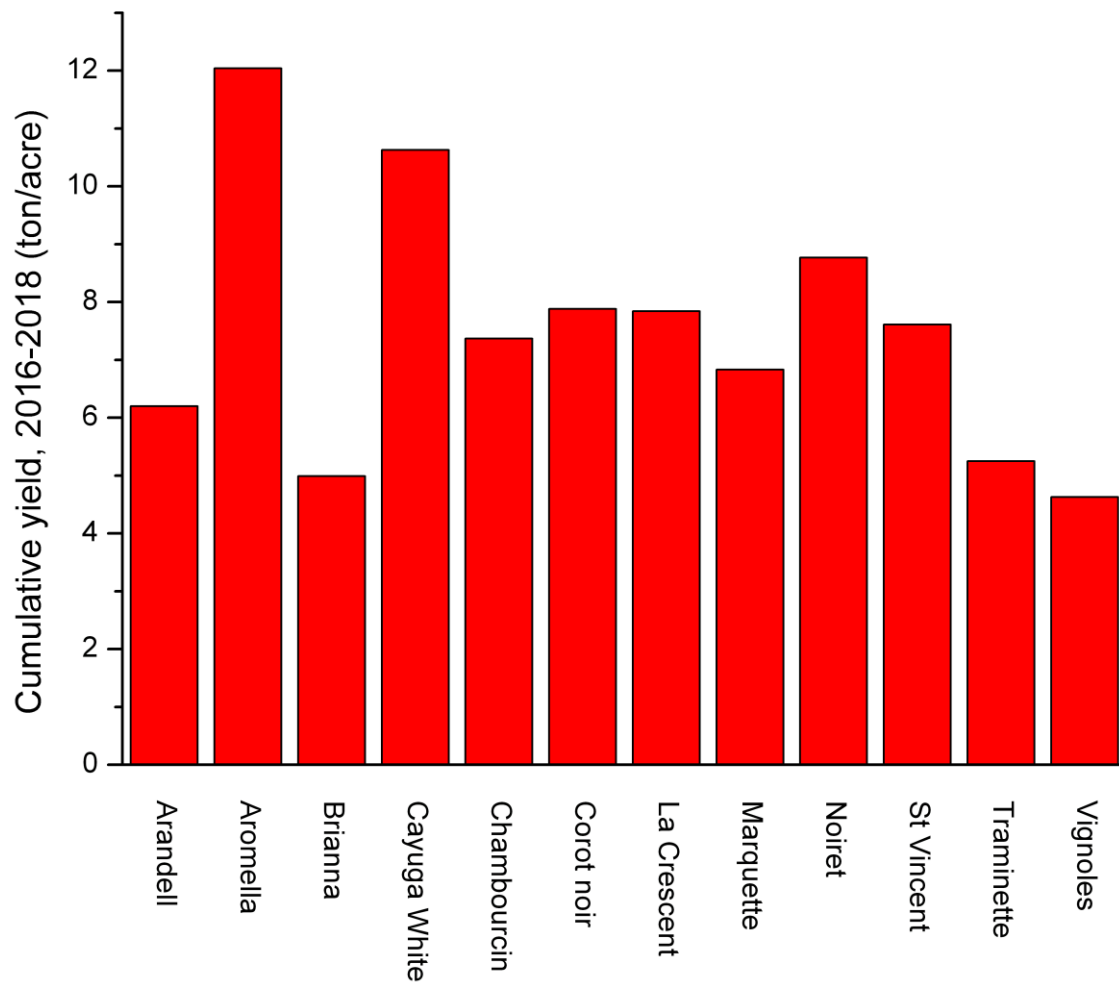
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The highest cumulative yields after 3 harvests are with Aromella and Cayuga White (> 10 ton/acre) followed by Noiret (8.8 ton/acre).

The lowest cumulative yields after 3 harvests are with Vignoles, Brianna, Traminette, and Arandell (4.6 to 6.2 ton/acre).



Cumulative yield, 2016 - 2018





Bud cold hardiness

Bud cold hardiness was evaluated five times during the 2018/19 dormant season.

Test dates were early November, early December, early January, mid February, and late March.



Bud cold hardiness

Based on the data from just one dormant season varieties can approximately be placed into three groups (from lowest to highest mid-winter hardiness:

Cayuga White, Chambourcin, Traminette (mid-winter LT_{50} around -15 to -18 F)

Arandell, Aromella, Noiret, St Vincent, Vignoles (mid-winter LT_{50} near -20 F)

Brianna, Corot noir, La Crescent, Marquette (mid-winter LT_{50} below -20 F)

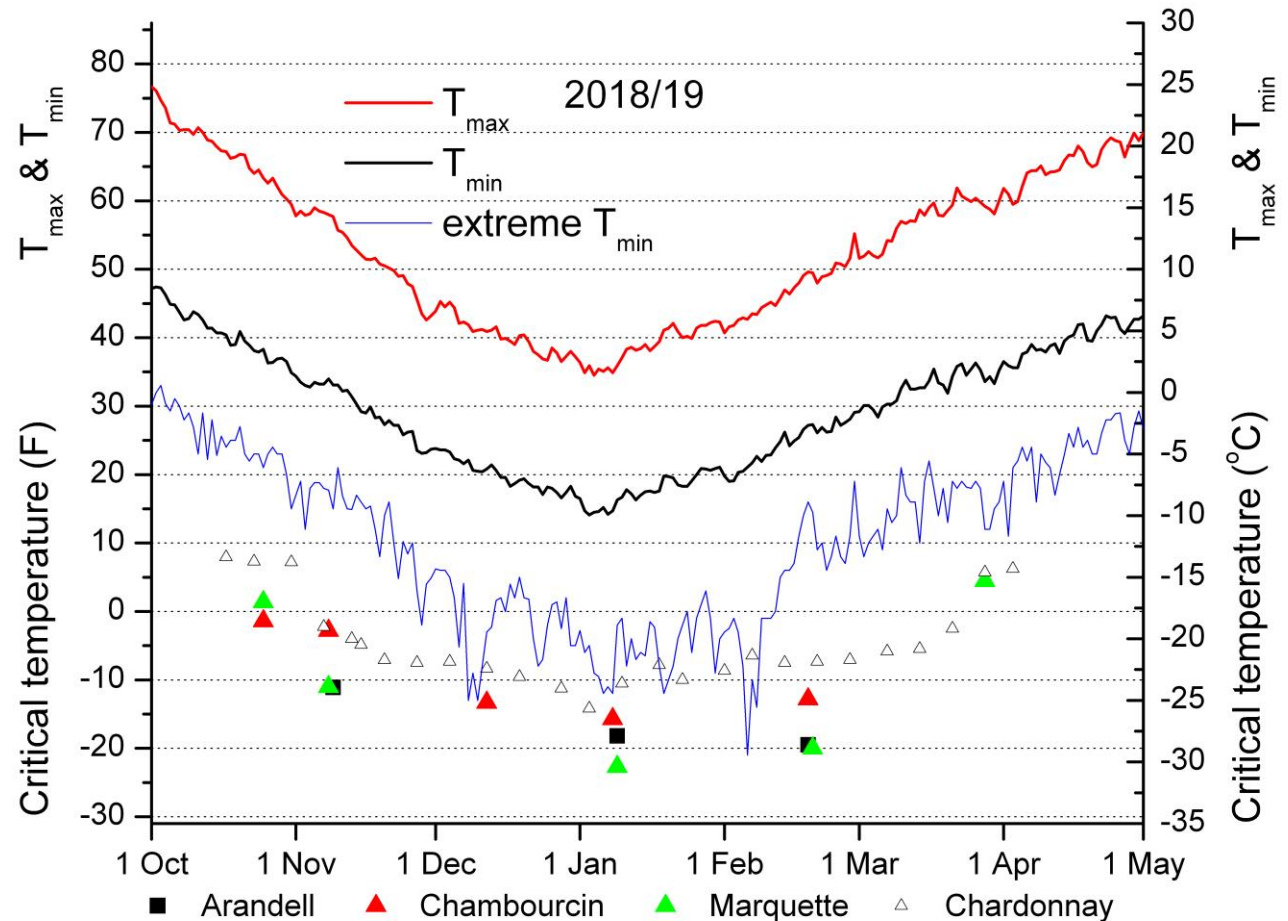


Bud cold hardiness

All varieties were found to be more cold hardy than Chardonnay for the majority of the dormant season.

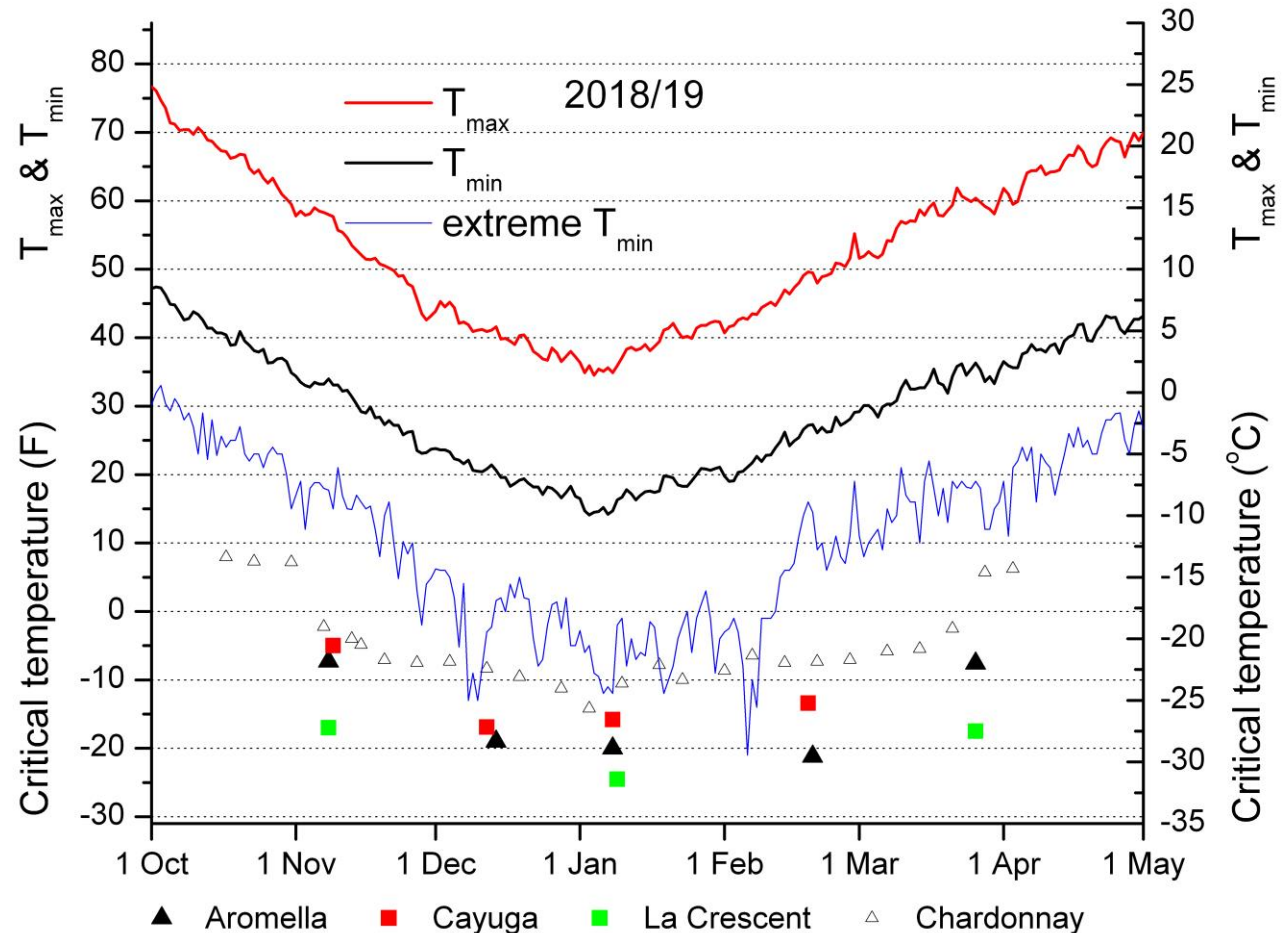
Exceptions were Chambourcin, Noiret, and Traminette in early November, and Marquette in late March.

Bud cold hardiness



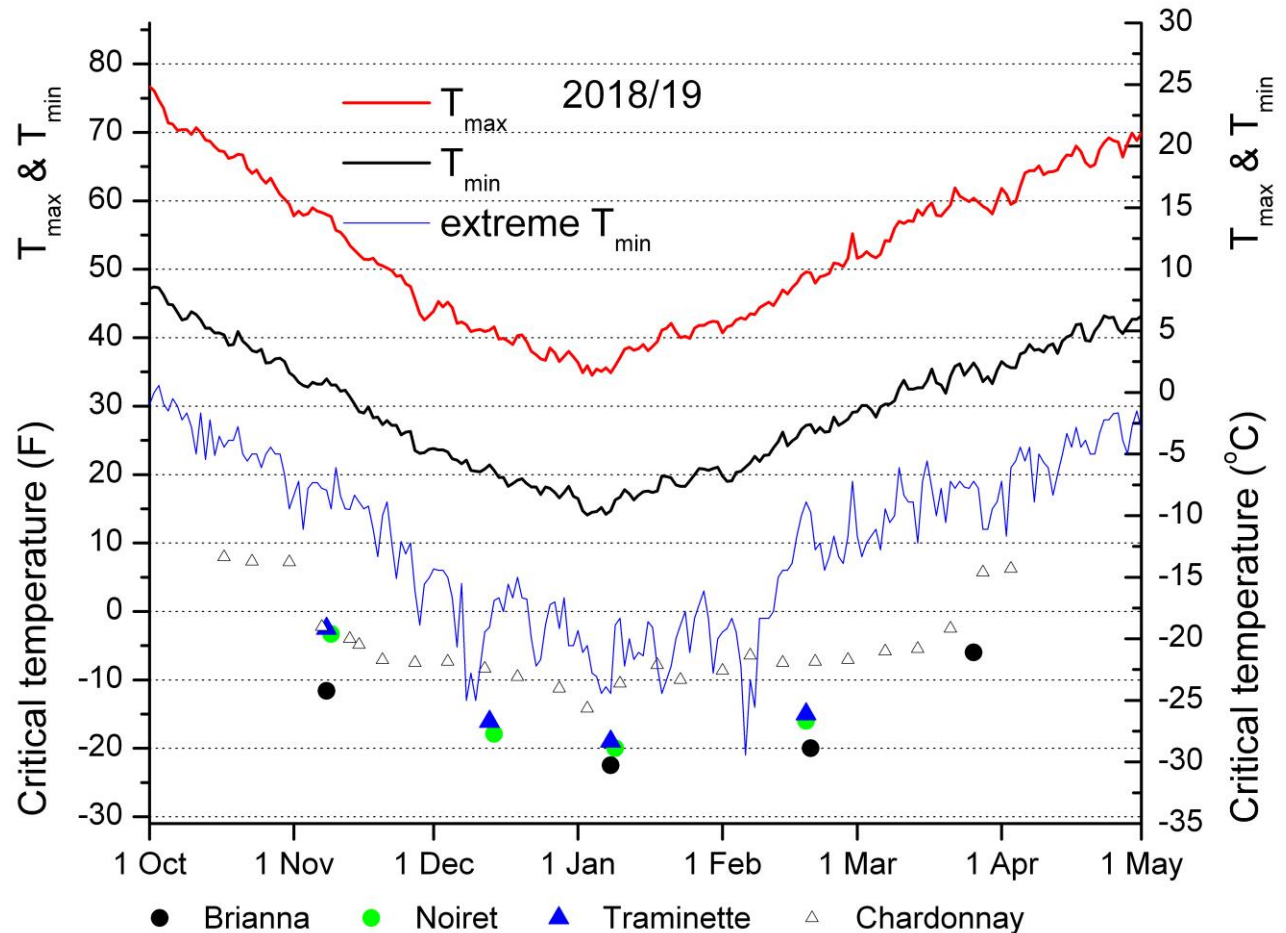
Long-term (1964-2018) average maximum, average minimum, and extreme minimum temperatures at the Orchard Mesa site as well as critical temperatures for a 50 % primary bud kill for Arandell, Chambourcin, and Marquette compared to Chardonnay.

Bud cold hardiness



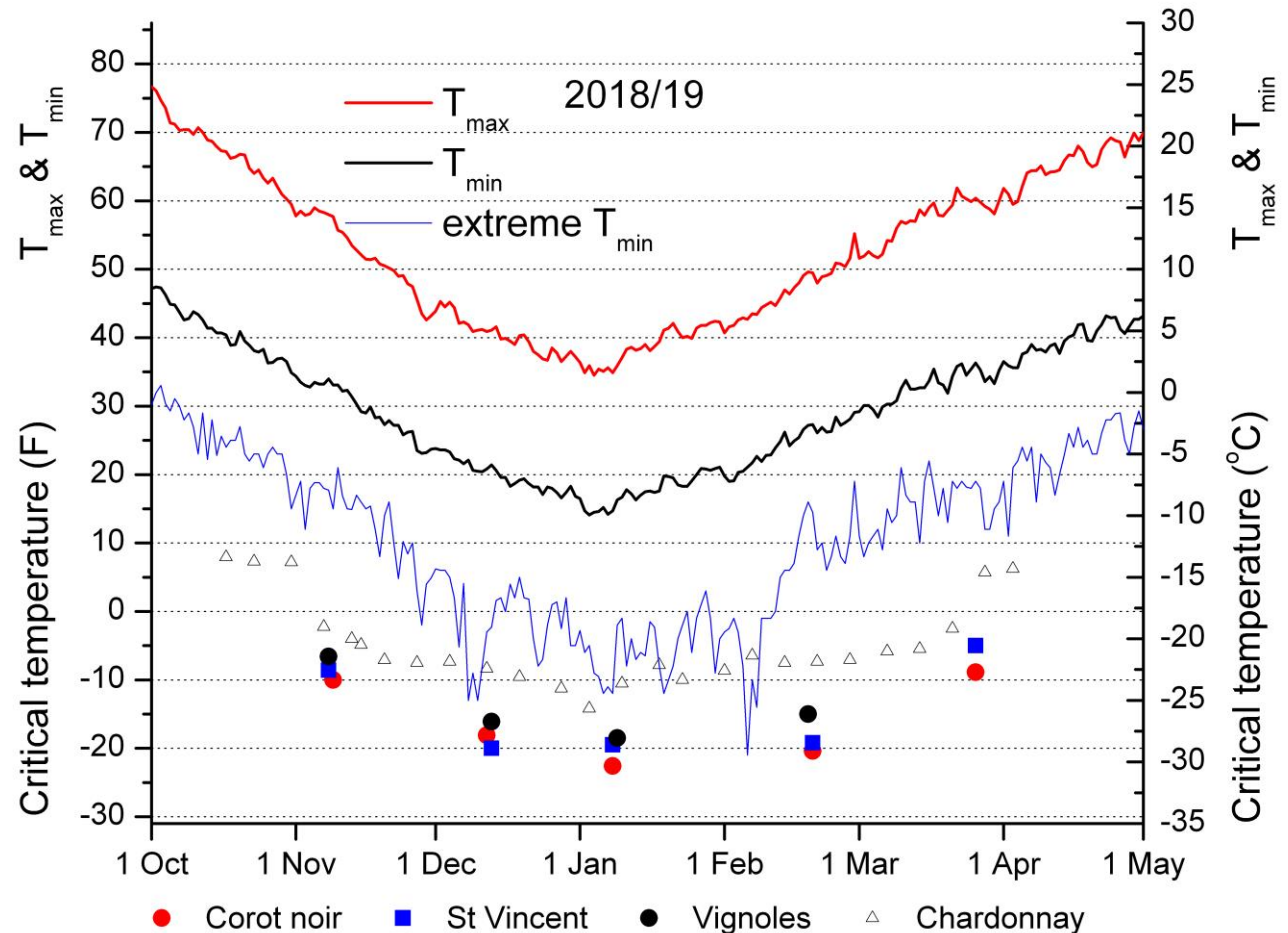
Long-term (1964-2018) average maximum, average minimum, and extreme minimum temperatures at the Orchard Mesa site as well as critical temperatures for a 50 % primary bud kill for Aromella, Cayuga White, and La Crescent compared to Chardonnay.

Bud cold hardiness



Long-term (1964-2018) average maximum, average minimum, and extreme minimum temperatures at the Orchard Mesa site as well as critical temperatures for a 50 % primary bud kill for Brianna, Noiret, and Traminette compared to Chardonnay.

Bud cold hardiness



Long-term (1964-2018) average maximum, average minimum, and extreme minimum temperatures at the Orchard Mesa site as well as critical temperatures for a 50 % primary bud kill for Corot noir, St Vincent, and Vignoles compared to Chardonnay.

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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:





Questions?

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