



The Impact of Extended Maceration of Cabernet Sauvignon on Wine Tannin Four Months Post Fermentation

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BACKGROUND

- In cool climate growing regions it can be challenging for winemakers to archive necessary colour, flavor and tannin in Cabernet Sauvignon.
- Post fermentation maceration (PFM) is a tool that winemakers use to increase tannin extraction and stability in wines.
- TanninAlert is the only grape tannin and ripeness program for Ontario vineyards and wineries.
- Analysing tannin concentrations in the skins and seeds separately to evaluate phenolic levels in red grapes.
- Tannin Alert then matches the levels in the grapes to winemaking techniques.

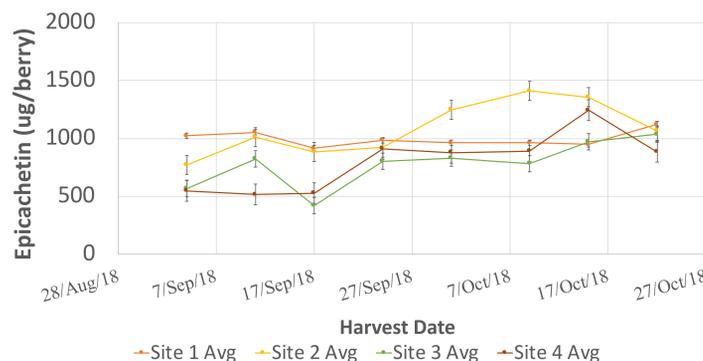
OBJECTIVES

- Collect skin and seed tannin values for Cabernet sauvignon grapes for the TanninAlert database.
- Report the impact of post fermentation maceration at 10, 20 and 30 days post fermentation on total tannin concentrations.

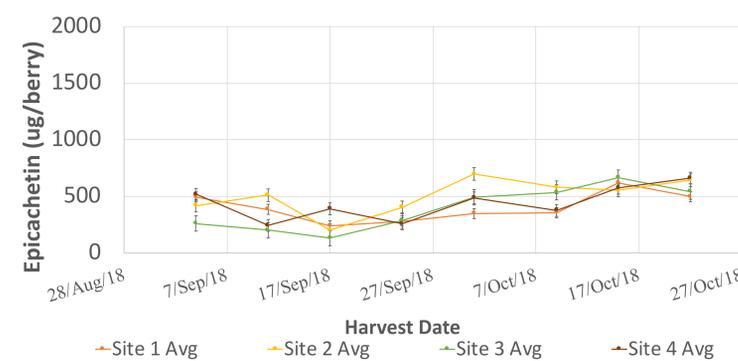


SKIN + SEED TANNIN DURING RIPENING

Cabernet Sauvignon Site 1-4 SKIN TANNIN Concentration

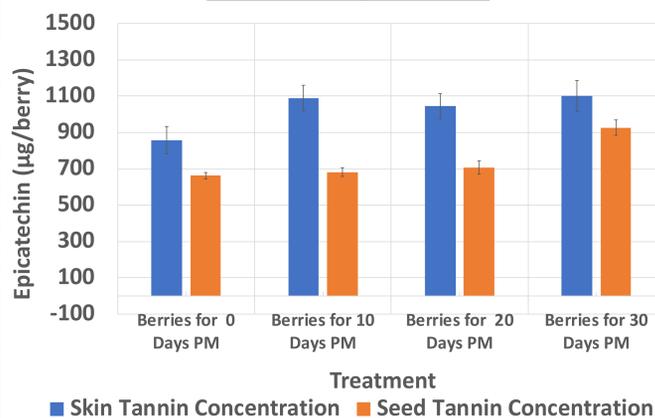


Cabernet Sauvignon Site 1-4 SEED TANNIN Concentration



- Skin tannin concentrations are greater than seed tannin concentrations at all time points during the ripening period.

Skin and Seed Tannin Concentration at Harvest for Cabernet Sauvignon Berries



- The grapes at harvest used for winemaking all showed higher skin tannin values at approximately 1000µg/berry compared to the seed tannin values at approximately 650µg/berry.
- There is no significant difference between treatments in skin or seed tannin concentrations at harvest.

METHOD

FRUIT HARVESTED BY HAND

HARVESTED FRUIT SEPARATED IN 4 TREATMENTS

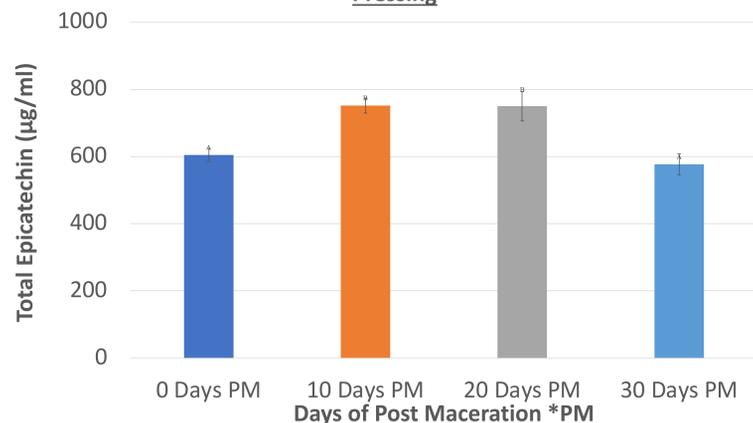
TREATMENTS SEPARATED AND PROCESSED INTO 25KG REPLICATES

Cabernet Sauvignon (300kg)

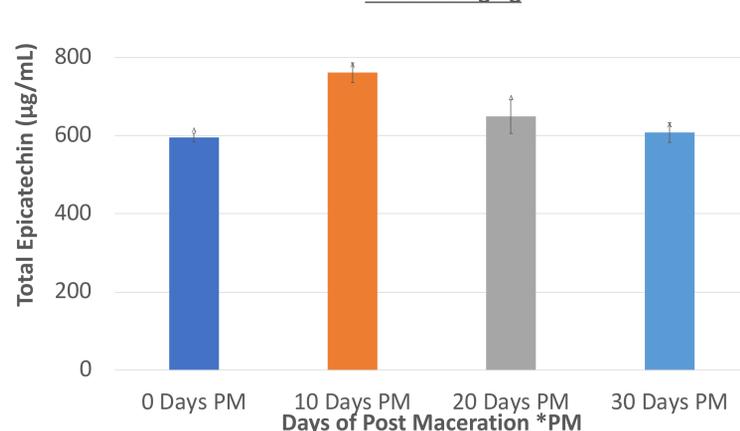


RESULTS

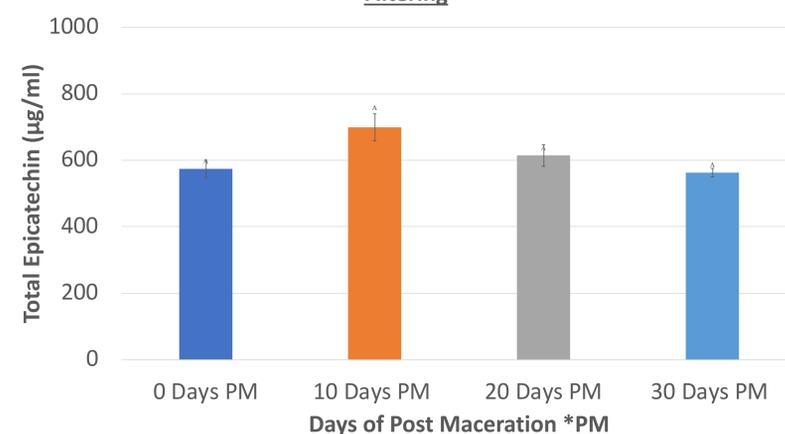
Total Extractable Tannins in Cabernet Sauvignon Wine at Pressing



Total Extractable Tannins for Cabernet Sauvignon Wine after 4 months aging



Total Extractable Tannins for Cabernet Sauvignon Wine post Filtering



- Wines at 10 and 20 days PFM had a significantly higher concentration of tannin at pressing than 0 and 30 days.
- 30 days PFM had no significant difference in tannin composition compared to zero days.
- After 4 months of aging wines made using 20 days PFM decreased in wine tannin concentration.
- There was an increase in tannin concentration after 4 months of aging in wines made using 30 days PFM.
- There was no difference in tannin concentration after 4 months of aging in the control or 10 days PFM.
- Following filtration there was a decrease in tannin concentration across all treatments.
- There were no significant differences in tannin concentration across all treatments post filtration.
- Sensory evaluation on the wines will be conducted to determine if perceptible differences can be detected amongst the treatments.