

Sensory attribute differences between early and late pick-dates in Semillon Wines

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Abstract

Semillon wine grapes were monitored throughout the 2018 ripening period for flavor development, Brix, pH, and TA. An early pick-date and a late pick-date were chosen based on these matrices. The grapes were processed at Pepper Bridge Winery in Walla Walla, WA with equivalent practices, with the late pick-date receiving a water back to match the alcohol level of the early pick-date. The grapes were sourced from Inland Desert Nursery in Benton City, WA from the same block of grapes, so fruit for both harvests was grown identically. The two treatments differed in aroma, flavor profile, and mouthfeel.

Introduction

There is a widely practiced standard of picking Semillon when a sugar content of between 23 and 24°Brix is reached. This harvest time is selected by the winemaker without total knowledge of the flavor development in the grapes in a given year. Flavor development does not follow sugar accumulation exactly the same from one year to the next. One concern we had was that with a later picking date we would have grapes with more phenolic bitterness and we could lose floral aromatics. Once the pick date has been chosen and the wine has been made, the options to manipulate the wine are limited to fining and blending with other wines. The goal of this study was to see what would be the flavor differences between an early and late pick-date in Semillon from the same block. We also wanted to see which one would be more preferred by our student group.



WSU V&E student, Madeleine Higgins, evaluates the development of color, flavor, and general health of the Semillon grape berry to decide the pick-date.



Materials and Methods

Grape were grown at Inland Desert Nursery – Benton City, WA, <http://inlanddesert.com/>

The grapes were monitored throughout the growing season for °Brix, pH, TA, and flavor development. The early pick was harvested at 22°Brix and pH 3.32 on September 9th while the late pick was harvested at 25°Brix and pH 3.51 on October 4th. Each treatment was processed in the same way post-harvest. The grapes were then transported to Pepper Bridge Winery in Walla Walla, WA, for vinification.

Winemaking (Pepper Bridge Winery – Walla Walla, WA, <http://www.pepperbridge.com/>)

The Semillon was pressed whole cluster and settled overnight at 45° F. Water was added to the late pick-date and sugar added to the early pick-date to match the alcohol contents of the wines to remove this as a variable when evaluating the different treatments. The grape must was then inoculated with Zymaflor ST *Saccharomyces cerevisiae* yeast. No SO₂ was added at crush, but was added when the alcoholic fermentation had finished. After completion of alcoholic fermentation the wines were allowed to sit on the yeast lees to develop aroma and mouthfeel. Malolactic fermentation was not encouraged (and did not occur) in these wines. Bench trials were done for bitterness mediation testing Polycacel (PVPP+cellulose+caseine), Polycel (PVPP+cellulose), potassium caseinate, Cole Perle (gelatin), and Noblesse. Blending trials were also done and compared to the sensory results of the fining trials.

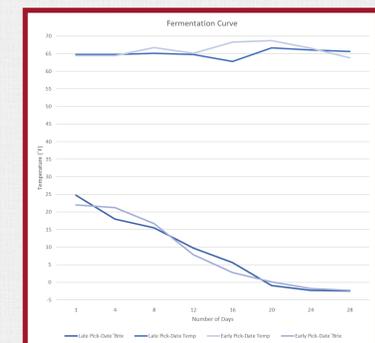


The block of Semillon had an uneven canopy. We made sure to sample equally from dense and light canopied rows to get an accurate read on the profile of the block.



Results

The two treatments displayed very similar fermentation curves, (See figure below) but significant aroma, flavor, and mouthfeel differences. The early pick-date delivered a more delicate floral, mineral aroma, and fine texture, whereas the late pick-date showed more fruit forward aromas of citrus lemon and subtle stone fruit notes and more weight in the mouth. Mouthfeel differed also in acidity and bitterness. The early pick-date wine retained higher acid than the late pick-date, where as the late pick-date expressed more bitterness than the early pick-date. The fining trials showed that Cole Perle (gelatine) had the most positive impact on bitterness in the wine while retaining desirable aroma and wine texture. This impact was most notable on the late pick-date wines. The blending trials were also done showing a preferred blend of 75% of the early pick-date and 25% of the late pick-date without any fining. In combining fining with blending, the preferred wine was a 50/50 blend of the two harvest dates with a gelatin fining of the late pick-date wine.



Comparative fermentation curves for the early pick-date and late pick-date treatments.

Conclusion

Although there is room for two different styles of Semillon, we learned that it is beneficial to have two different pick-dates to be able to use blending to enhance complexity and quality. Having two different pick-dates gives the winemaker an incredible opportunity to manipulate the wine without using problematic additives and while keeping 100% varietal designation.

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