

Reverse Osmosis Trials (2014)

King Family Vineyards

Matthieu Finot

Overview: Reverse Osmosis was performed on Merlot, Malbec, and Petit Verdot wine in the 2014-2015 season in order to assess its effect on the chemical and sensory aspects of these wines.

Results:

Chemical parameters were not much affected by reverse osmosis, although color intensity was increased in RO wines. Hue was also slightly increased, suggesting some oxidation from RO. The Merlot and Malbec wines were found to be significantly different between treatments through triangle testing ($p < 0.05$), but Petit Verdot showed no discernable difference.

Sample	pH	TA (g/L)	Free SO ₂ (mg/L)	Acid Acid (g/L)	Alcohol%
MrI RO	3.68	5.7	25	0.32	13.5
Control	3.69	5.8	23	0.38	13.9
MLB RO	3.75	6.5	27	0.35	12.3
Control	3.77	6.5	24	0.29	12.3
PV RO	3.82	6.9	35	0.41	13.6
Control	3.82	6.8	36	0.43	13.7

Sample	420	520	620	Hue (420/520)	Intensity (420+520)	Intensity (420+520+620)
MrI RO	1.573	2.175	0.449	0.723	3.748	4.197
Control	1.415	1.959	0.394	0.722	3.374	3.768
MLB RO	1.900	2.589	0.648	0.733	4.489	5.137
Control	1.638	2.271	0.544	0.721	3.909	4.453
PV RO	2.109	2.762	0.759	0.763	4.871	5.63
Control	1.874	2.535	0.659	0.739	4.409	5.068

--	--	--	--	--	--	--