

Cap Management Comparison with Merlot (2015)
King Family Vineyards
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Summary:

Identically sourced Merlot was harvested in bins, de-stemmed but not crushed, and divided in 4 separate t-bins of approximately 0.75 tons each. Each bin was inoculated with 14g/hL of yeast and received identical additions throughout fermentation. Each bin received a different cap management protocol as follows:

- Control - 2x/day punch down
- Trial 1 - 2x/day punch down, but fruit will be both de-stemmed and crushed
- Trial 2- 4x/day punch down
- Trial 3 - 2x/day pump over that replaces 1.5x the volume of wine (0.75 each time)

All four lots received an identical duration of skin contact, and following AF were pressed and transferred to identical barrels. Upon completion of MLF 50ppm SO₂ was added.

Lab Results:

	pH	TA (g/L)	AA (g/L)	%EtOH	Gluc+Fruc	Malic	TSO ₂	FSO ₂
Control	3.85	4.88	0.46	13.67	8	none	38	15
T1	3.79	5.21	0.48	13.74	8	none	42	16
T2	3.79	5.15	0.46	13.31	7	none	43	17
T3	3.82	4.9	0.57	13.68	8	none	47	22

Phenolic Fingerprint				
	CTRL	T1	T2	T3
Tannin (g/L)	1.29	1.2	1.22	1.11
Pigment (g/L)	17.04	15.58	16.44	16.58
Phenolics (g/L)	45.26	43.14	43.48	41.7
Pigmented Tannin (g/L)	1.59	1.54	1.6	1.39
Free Anthocyanins (g/L)	14.38	13.01	13.78	14.29

PCR Panel (cells/mL)				
	CTRL	T1	T2	T3
Acetic Acid Bact.	none	none	none	none
<i>Brettanomyces</i>	none	none	none	none
<i>Lactobacillaceae</i>	2.55E+0 4	1.48E+0 4	1.59E+0 4	1.91E+0 4
<i>Oenococcus</i>	1.20E+0 7	1.11E+0 7	4.78E+0 6	2.34E+0 7
<i>Pediococcus</i>	338	194	199	324
<i>Saccharomyces</i>	1.65E+0 5	5.10E+0 5	none	1.38E+0 5
<i>Zygosaccharomyces</i>	580	306	273	177

Color				
	CTRL	T1	T2	T3
420	0.287	0.268	0.276	0.252
520	0.386	0.366	0.382	0.33
620	0.085	0.079	0.081	0.071
Intensity	0.758	0.713	0.739	0.653
Hue	0.744	0.732	0.723	0.764

Results:

In general, there were not many chemical or microbial differences between the wines except that the pumcover wine had higher volatile acidity.

Of respondents (n=17) 23.5% preferred the control, 47% preferred Trial 1, 0% preferred Trial 2, and 29.5% preferred Trial 3.