Sulfur Dioxide-Free Winemaking with Chardonnay (2015)

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Summary:

Identically harvested Chardonnay was stored overnight in cold room before being processed and divided into 2 identical lots. One lot was produced using a "traditional" protocol, the other using a sulfur free production protocol.

Traditional protocol:
press whole cluster.
while filling the press Lafazym press
in the pan SO2 4g/hl
champagne program
Racking in barrels after settling overnight
NTU: 50
yeast addition CY 3709: 15g/hl
wine will go through MLF
once MLF completed, SO2 5g/hl

Sulfur Free Protocol:
press whole cluster.
while filling the press:
Lafazym press 20g/ton
Zymaflore Alpha (torulaspora delbrueckii) 30g/hl
champagne program.
small aeration of the must before settling (Ideal 20mg/l of O2)
tank inerted with CO2
addition of tannin galacool 10g/hl
Racking in barrels after settling overnight
NTU: 50
yeast addition CY 3709: 15g/hl
at ⅓ of depletion fresh arom (glutathione) 30g/hl
wine will go through MLF
once MLF completed, stab micro (chitosan) 10g/hl
batonnage every other week wine topped after each battonage.

Lab Results:

	pH	TA (g/L)	AA (g/L)	%EtOH	Gluc+Fruc	Malic	TSO2	FSO2	DO
Traditional	3.53	4.76	0.49	12.90	42	1	51	9	0.28
SO2 Free	3.58	4.48	0.47	12.70	27	n/a	39	3	0.38

PCR Panel (cells/mL)		
	Traditional	**SO2 Free**
Acetic Acid Bacteria	None	None
Brettanomyces	31	30
Lactobacillaceae	3.69E4	4.67E4
Oenococcus	1.16E7	2.34E7
Peiococcus	63	126
Saccharomyces	1.17E7	7.1E7
Zygosaccharomyces	90	202

Sensory Results:

There was a significant sensory difference ($p<0.01$) between the Control (traditional) and Trial (low sulfur protocol). Of those that responded and indicated a preference (n=19) 63% preferred the control and 37% preferred the trial.