Supplementary Materials

Amelioration of Smoke Taint in Cabernet Sauvignon Wine via Post-Harvest Ozonation of Grapes

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Table S1. Concentrations (µg/L) of volatile phenol glycosides in Cabernet Sauvignon wines made with control and smoke-exposed grapes, with and without post-harvest ozone treatment (1 ppm for 24 h).

	Control	Control + O_3	Smoke	Smoke + O_3	p
guaiacol glucoside	nd	nd	10.1 ± 0.5 [a]	8.1 ± 0.4 [b]	<0.001
guaiacol glucose-glucoside	nd	nd	1.8 ± 0.2	1.6 ± 0.2	ns
guaiacol pentose-glucoside	8.1 ± 0.3 [c]	8.5 ± 1.2 [c]	286 ± 22 [a]	214 ± 14 [b]	<0.001
guaiacol rutinoside	1.7 ± 0.4 [c]	1.8 ± 0.4 [c]	42 ± 0.6 [a]	34 ± 1.8 [b]	<0.001
4-methylguaiacol pentose-glucoside	1.8 ± 0.3 [c]	1.2 ± 0.5 [c]	43 ± 0.7 [a]	33 ± 0.9 [b]	<0.001
4-methylguaiacol rutinoside	1.1 ± 0.2 [c]	1.1 ± 0.3 [c]	36 ± 1.9 [a]	29 ± 0.5 [b]	<0.001
phenol glucoside	1.2 ± 0.1 [b]	1.4 ± 0.1 [b]	27 ± 1.1 [a]	26 ± 2.8 [a]	<0.001
phenol glucose-glucoside	nd	nd	5.7 ± 0.1 [a]	4.4 ± 0.1 [b]	<0.001
phenol pentose-glucoside	tr	tr	22 ± 1.2 [a]	18.7 ± 1.4 [b]	<0.001
phenol rutinoside	1.8 ± 0.02 [c]	2.0 ± 0.4 [c]	56 ± 2.3 [a]	49 ± 2.0 [b]	<0.001
cresol pentose-glucoside	tr	tr	15.2 ± 0.7 [a]	13.3 ± 0.8 [b]	<0.001
cresol rutinoside	4.3 ± 0.06 [c]	4.3 ± 0.8 [c]	102 ± 5.0 [a]	87 ± 2.6 [b]	<0.001
syringol glucoside	nd	nd	16.6 ± 1.0 [a]	13.0 ± 1.0 [b]	<0.001
syringol glucose-glucoside	9.9 ± 0.4 [c]	10.8 ± 0.3 [c]	497 ± 5.9 [a]	383 ± 11 [b]	<0.001
syringol pentose-glucoside	2.3 ± 0.3 [c]	2.6 ± 0.2 [c]	100 ± 5.9 [a]	77 ± 3.1 [b]	<0.001
4-methylsyringol glucose-glucoside	nd	nd	28 ± 1.0 [a]	19.1 ± 0.3 [b]	<0.001
4-methylsyringol pentose-glucoside	nd	nd	9.8 ± 0.7 [a]	7.0 ± 0.5 [b]	<0.001

Data are means from three replicates ($n = 3$) ± standard deviation, measured as syringol glucose-glucoside equivalents; nd = not detected (<0.5 µg/L); tr = trace (0.5–1 µg/L). Different letters (within rows) indicate statistical significance ($p = 0.05$, one-way ANOVA); ns = not significant.

Table S2. Mean intensity ratings for sensory attributes of Cabernet Sauvignon wines made with control and smoke-exposed grapes, with and without post-harvest ozone treatment (1 ppm for 24 h).

Attribute	Control	Control + O₃	Smoke	Smoke + O₃	p
fruit aroma	4.2 [a]	4.0 [a]	2.2 [b]	2.3 [b]	<0.0001
smoke aroma	1.8 [b]	1.4 [b]	6.2 [a]	5.4 [a]	<0.0001
cold ash aroma	1.7 [b]	1.4 [b]	5.2 [a]	4.5 [a]	<0.0001
earthy aroma	2.8	2.4	3.0	3.0	ns
medicinal aroma	2.0 [b]	2.3 [b]	3.9 [a]	3.6 [a]	<0.0001
burnt rubber aroma	1.5 [b]	1.2 [b]	3.4 [a]	3.1 [a]	<0.0001
fruit flavor	4.6 [a]	4.5 [a]	2.6 [b]	3.0 [b]	<0.0001
smoky flavor	1.6 [b]	1.2 [b]	5.9 [a]	5.1 [a]	<0.0001
medicinal flavor	1.8 [b]	1.7 [b]	3.9 [a]	3.4 [a]	<0.0001
ashy aftertaste	1.4 [b]	1.3 [b]	3.1 [a]	3.1 [a]	<0.0001
woody aftertaste	2.4 [b]	2.3 [b]	3.1 [a]	3.1 [a]	0.001
metallic aftertaste	2.0 [b]	1.9 [b]	3.0 [a]	2.8 [a]	<0.0001
drying aftertaste	4.4	3.9	4.5	4.3	ns
bitterness	2.2 [b]	2.0 [b]	3.1 [a]	2.8 [a]	<0.0001
acidity	5.6	5.1	5.5	5.3	ns
hotness	3.3	3.2	4.0	4.0	ns
astringency	4.0	3.9	4.0	4.0	ns
body	3.9	3.5	3.6	3.6	ns

Data are mean ratings for three wine replicates, each evaluated by 15 judges. Different letters (within rows) indicate statistical significance ($p = 0.05$, two-way ANOVA); ns = not significant.