

SUPPLEMENTARY DATA

Persico, M.J., Smith, D.E., Smith, M.S., Hopfer, H., & Centinari, M. (2023). The impact of delayed grapevine budbreak on Lemberger wine sensory compounds under variable weather conditions: This article is published in cooperation with the 22nd GiESCO International Meeting, hosted by Cornell University in Ithaca, NY, July 17-21, 2023.. *OENO One*, 57(2). <https://doi.org/10.20870/oeno-one.2023.57.2.7437>

SUPPLEMENTARY DATA

Supplemental Table 1. Effect of delayed budbreak treatments on Lemberger percent *véraison* and juice chemistry data collected on the same date in mid-August 2017, 2018, and 2019.

Treatment	Berry colour change*			TSS			pH			TA		
	2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
C	43 a	80 a	75 a	12.9 a	14.3	16.17	2.89 a	3.07 a	3.17	21.02 b	16.64	13.34
A8	37 a	51 b	74 a	12.4 a	13.2	15.90	2.85 a	3.02 ab	3.09	21.63 b	16.17	13.45
A10	33 a	58 ab	74 a	12.1 a	13.2	15.93	2.85 a	2.99 b	3.13	23.08 b	16.42	13.21
LP	2 b	37 b	53 b	7.2 b	13.3	15.93	2.66 b	2.99 b	3.11	31.29 a	18.68	13.91
p-value	<0.001	<0.001	0.009	<0.001	0.058	0.626	<0.001	0.020	0.138	<0.001	0.377	0.598

*Berry colour change (%) indicates the percentage of berries per cluster that changed colour measured on 15 Aug 2017, 15 Aug 2018, and 15 Aug 2019. Berry samples were collected on the same day as the *véraison* assessment for measurements of TSS, pH, and TA. Different letters within a column indicate significant differences among treatments at $p < 0.05$ following Tukey's HSD. Treatments included a control (C), two concentrations (8 % and 10 %) of dormant oil (Amigo) application (A8, A10), and late pruning (LP) applied at EL 10 in 2017 and EL 7 in 2018 and 2019.

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3 **Supplementary Table 2. Effect of delayed budbreak treatments on Lemberger juice chemistry in September 2017, 2018, and 2019, approximately**
 4 **one month before the date of harvest each year.**

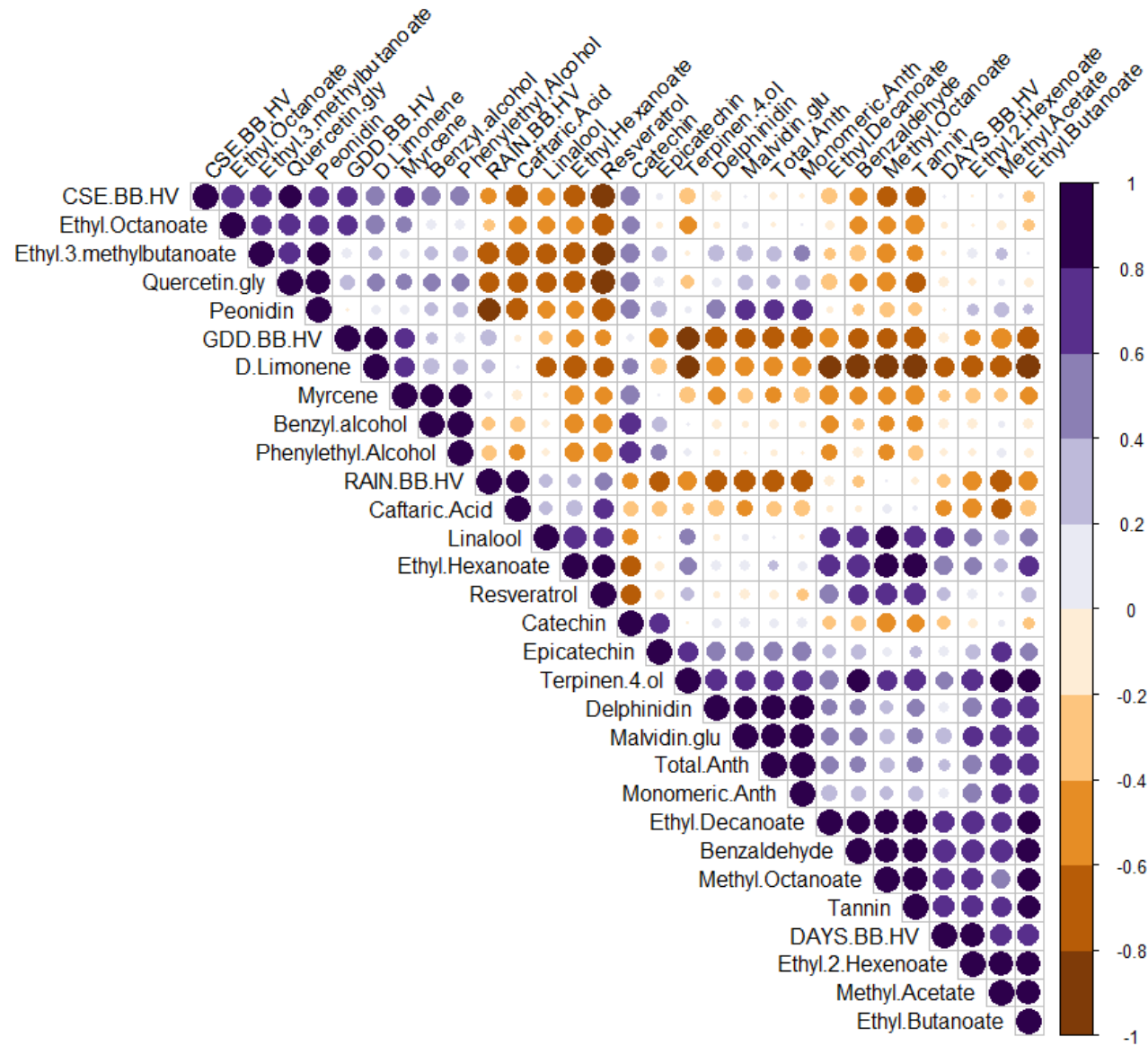
Treatment	TSS (Brix)			pH			TA (g/L)		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
C	19.09 a	17.5	20.3	3.28 ab	3.42 a	3.37	9.03 c	8.81 b	7.76
A8	19.17 a	17.3	19.5	3.26 ab	3.43 a	3.35	9.61 bc	8.79 b	7.83
A10	19.24 a	17.3	20.1	3.33 a	3.41 a	3.37	10.24 b	9.02 b	7.81
LP	17.17 b	17.2	20.3	3.21 b	3.35 b	3.33	11.99 a	9.79 a	7.95
p-value	<0.001	0.845	0.066	0.010	0.001	0.341	<0.001	0.002	0.771

5 *Measurements were conducted on 8 Sept 2017, 9 Sept 2018, and 11 Sept 2019. Harvest occurred on 10 Oct 2017, 4 Oct 2018, and 3 Oct 2019. Different letters within a column indicate
 6 significant differences among treatments at $p < 0.05$ following Tukey’s HSD. Treatments included a control (C), two concentrations (8 % and 10 %) of dormant oil (Amigo) application
 7 (A8, A10), and late pruning (LP) applied at EL 10 in 2017 and EL 7 in 2018 and 2019.

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Supplementary Figure 1. Heatmap of Pearson's correlation coefficients for select weather variables and compounds

^aWine compounds were included in the heatmap if they were significantly different by "vintage" following MANOVA at $p < 0.1$. The number of days between budbreak and harvest, and rain, GDD, and CSE variables between budbreak and harvest are denoted as BB-HV in the figure. Circle colour and size represent the correlation between two variables in the heatmap.