

Supplemental Data for:

Londo JP, Moyer MM, Mireles M, Mills L, Keller M, Workmaster BA, Atucha A and Kovaleski AP. 2023. Evaluation of sample preparation practices common with differential thermal analysis of grapevine bud cold hardiness. Am J Enol Vitic 74:2. DOI: 10.5344/ajev.2022.22010

Supplemental Table 1 Impacts of sample preparation approaches on observed low temperature exotherms (LTE) of grapevine (*Vitis* sp.) buds using differential thermal analysis (DTA). Sample preparation was analyzed for individual and interactive effects (individual factor effects; interactions). Preparation, as a combined approach, was also evaluated (full preparation combinations). The default comparison treatment for single factors are foil (versus no), wet (versus dry), and bud orientation thermoelectric module (versus away). Values reported are observed drift in LTE in degrees Celsius (positive indicates higher LTE, negative indicates lower LTE). When indicated under the interaction effect: F, foil; M, moisture; and O, bud orientation. Location 1, New York; Location 2, Washington #1; Location 3, Washington #2. *, **, and *** indicate a significant effect at $\alpha \leq 0.05$, 0.01, and 0.001, respectively. n indicates the number of buds/peaks included after outlier removal.

Lab	Cultivar	Date	Foil	Moisture	Orientation	Interaction	Preparation	n
1	Riesling	19 Nov 2018	-0.5		-0.7	F,O	***	448
3	Chardonnay	3 Dec 2018			0.6	F,O	***	156
1	Riesling	5 Dec 2018			ns	ns	94	
1	Chardonnay	5 Dec 2018			ns	ns	152	
1	Merlot	5 Dec 2018		2.9		ns	*	99
2	Chardonnay	7 Dec 2018			ns	ns	154	
2	Chardonnay	21 Dec 2018		0.9		F,M	***	160
3	Chardonnay	21 Dec 2018			0.3	ns	ns	160
3	Merlot	8 Jan 2019			ns	ns	159	
2	Chardonnay	11 Jan 2019	0.7	-0.7		*	***	159
3	Chardonnay	11 Jan 2019			ns	ns	160	
2	Chardonnay	1 Feb 2019			ns	ns	154	
3	Chardonnay	1 Feb 2019			ns	ns	157	
2	Chardonnay	5 March 2019	-0.8		0.7	ns	***	158
3	Chardonnay	5 March 2019			-0.8	M,O	***	160
2	Chardonnay	22 March 2019	-0.8		1	F,O	**	158
3	Chardonnay	22 March 2019	-0.5		-0.4	M,O	**	158
2	Chardonnay	8 Nov 2019	-0.6			ns	ns	157
3	Chardonnay	8 Nov 2019			ns	ns	159	
3	Merlot	4 Dec 2019			1.3	M,O	*	159
2	Chardonnay	6 Dec 2019		-0.8		F,M	ns	158
3	Chardonnay	6 Dec 2019			ns	ns	157	
1	Chardonnay	6 Jan 2020			ns	ns	80	
1	Merlot	6 Jan 2020	2			na	*	61
1	Lemberger	9 Jan 2020		2		na	**	68
1	Merlot	9 Jan 2020			ns	ns	68	
3	Chardonnay	11 Jan 2020		-0.7		ns	ns	108
3	Merlot	16 Jan 2020			ns	ns	158	
2	Chardonnay	20 Jan 2020			ns	ns	157	
3	Chardonnay	1 Feb 2020			ns	ns	158	
3	Chardonnay	7 Feb 2020			0.3	ns	*	158
3	Merlot	18 Feb 2020	-0.6	-1	-0.6	F,M	***	157
2	Chardonnay	6 March 2020	-1	-1.6		M,O	***	158
3	Chardonnay	6 March 2020		-1.4	-0.7	F,M; M,O	***	119
3	Chardonnay	3 Nov 2020	-1	-2	0.8	ns	***	158
3	Chardonnay	11 Dec 2020				F,M,O	ns	159
1	Cab franc	22 Dec 2020			1	ns	*	112
1	Chardonnay	22 Dec 2020			1.4	ns	ns	128
1	Merlot	22 Dec 2020	-0.6			ns	*	119
1	Sauvignon blanc	22 Dec 2020			1.2	ns	ns	120
1	Marechal Foch	6 Jan 2021		-3.6	-	ns	***	61
1	Pinot gris	6 Jan 2021		-2.6	-	F,M	***	66
3	Chardonnay	15 Jan 2021			0.9	M,O	ns	160
1	Merlot	12 Feb 2021				ns	ns	92
1	Pinot noir	12 Feb 2021				ns	ns	55

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Supplemental Table 2 Impact of bud position along the cane on low temperature exotherm (LTE) values for Experiments 3.1 and 3.2, calculated by each individual cane and averaged when multiple canes were surveyed on the same date. Slope indicates direction of LTE change and *p* value indicates if the slope is significantly different from zero. Bolded rows are significant at *p* < 0.05.

	Cultivar	Date	Replicate	Total node number	Slope	Std. error	Statistic	<i>p</i> value
Experiment 3.1	Riesling	18 Oct 2018	1	16	0.015	0.030	0.492	0.630
	Riesling	18 Oct 2018	2	15	-0.028	0.058	-0.476	0.642
	Riesling	18 Oct 2018	3	16	0.039	0.030	1.300	0.214
	Average	18 Oct 2018			0.009	0.023	0.397	0.694
	Riesling	10 Feb 2019	1	18	0.130	0.038	3.384	0.004
	Riesling	10 Feb 2019	2	18	0.142	0.064	2.206	0.042
	Average	10 Feb 2019			0.136	0.038	3.609	0.001
	Chardonnay	6 Jan 2020	1	8	-0.052	0.335	-0.156	0.880
	Chardonnay	6 Jan 2020	2	9	0.386	0.095	4.066	0.005
	Average	6 Jan 2020			0.167	0.174	0.959	0.352
Experiment 3.2	Merlot	6 Jan 2020	1	8	0.063	0.151	0.419	0.690
	Merlot	6 Jan 2020	2	9	-0.136	0.172	-0.790	0.456
	Average	6 Jan 2020			-0.034	0.114	-0.302	0.767
	Marechal Foch	8 Jan 2020	1	33	0.024	0.036	0.657	0.515
	Marechal Foch	12 Jan 2020	1	38	0.003	0.056	0.053	0.958
	Merlot	5 March 2020	1	8	0.443	0.234	1.892	0.100
	Merlot	5 March 2020	2	8	-0.205	0.224	-0.913	0.396
	Merlot	5 March 2020	3	8	-0.578	0.334	-1.728	0.135
	Merlot	5 March 2020	4	9	0.156	0.280	0.555	0.596
	Average	5 March 2020			-0.007	0.147	-0.048	0.962
Deacclimated 3 days	Merlot	8 March 2020	1	9	0.046	0.121	0.381	0.715
	Merlot	8 March 2020	2	8	-0.177	0.280	-0.630	0.552
	Merlot	8 March 2020	3	9	-0.004	0.096	-0.038	0.971
	Merlot	8 March 2020	4	8	0.283	0.193	1.470	0.192
	Average	8 March 2020			0.057	0.113	0.504	0.618
Deacclimated 6 days	Merlot	11 March 2020	1	9	-0.068	0.162	-0.421	0.687
	Merlot	11 March 2020	3	9	0.025	0.255	0.098	0.926
	Merlot	11 March 2020	4	9	-0.889	0.181	-4.922	0.003
	Average	11 March 2020			-0.191	0.229	-0.837	0.411
Deacclimated 8 days	Merlot	13 March 2020	1	9	0.280	0.229	1.221	0.262
	Merlot	13 March 2020	2	9	-0.025	0.092	-0.267	0.797
	Merlot	13 March 2020	3	8	-0.050	0.306	-0.164	0.875
	Merlot	13 March 2020	4	8	0.209	0.182	1.152	0.293
Deacclimated 10 days	Average	13 March 2020			0.149	0.141	1.055	0.300
	Merlot	15 March 2020	1	7	0.398	0.143	2.790	0.038
	Merlot	15 March 2020	2	6	-1.758	0.305	-5.764	0.004
	Merlot	15 March 2020	3	9	0.234	0.308	0.758	0.473
	Merlot	15 March 2020	4	8	0.540	0.182	2.975	0.021
	Average	15 March 2020			0.212	0.173	1.223	0.231