

Supplemental Data for:

Doumouya, S., M. Lahaye, C. Maury, and R. Siret. 2014.

Physical and physiological heterogeneity within the grape bunch: Impact on mechanical properties during maturation.

Am. J. Enol. Vitic. 65:170-178. doi: 10.5344/ajev.2014.13062.

Supplemental Table 1 Number of berries per bunch harvested during the ripening period.
(Date of midflowering: 21 May 2011; date of midveraison: 31 July 2011.)

Sampling date	Days postveraison	Bunch number	Berries per bunch (n)
17 Aug 2011	17	1	158
		2	122
		3	165
22 Aug 2011	22	4	97
		5	145
		6	131
24 Aug 2011	24	7	84
		8	96
		9	88
29 Aug 2011	29	10	111
		11	95
		12	104
31 Aug 2011	31	13	101
		14	108
		15	124
05 Sep 2011	36	16	121
		17	101
		18	119
07 Sep 2011	38	19	137
		20	116
		21	106
12 Sep 2011	43	22	125
		23	117
		24	130
14 Sep 2011	45	25	111
		26	128
		27	158
19 Sep 2011	50	28	122
		29	165
		30	97

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Supplemental Table 2 Pearson coefficient of correlations between mechanical parameters at harvest time.
Significant correlations at $p < 0.05$ are in bold; $n = 349$.

Parameter	F1	F2	Grad0	Grad1	Grad2	W1	W2	Cohesiveness	Gumminess
F1	-								
F2	1.00	-							
Grad0	0.62	0.62	-						
Grad1	0.67	0.65	0.30	-					
Grad2	0.87	0.86	0.49	0.87	-				
W1	0.90	0.89	0.59	0.34	0.64	-			
W2	0.85	0.86	0.48	0.28	0.54	0.96	-		
Cohesiveness	-0.58	-0.55	-0.65	-0.23	-0.54	-0.61	-0.40	-	
Gumminess	0.85	0.87	0.36	0.63	0.69	0.71	0.81	-0.10	-

Supplemental Table 3 Comparison test between whole grape bunch sampling and middle position berry sampling across ripening. ns = not significant.

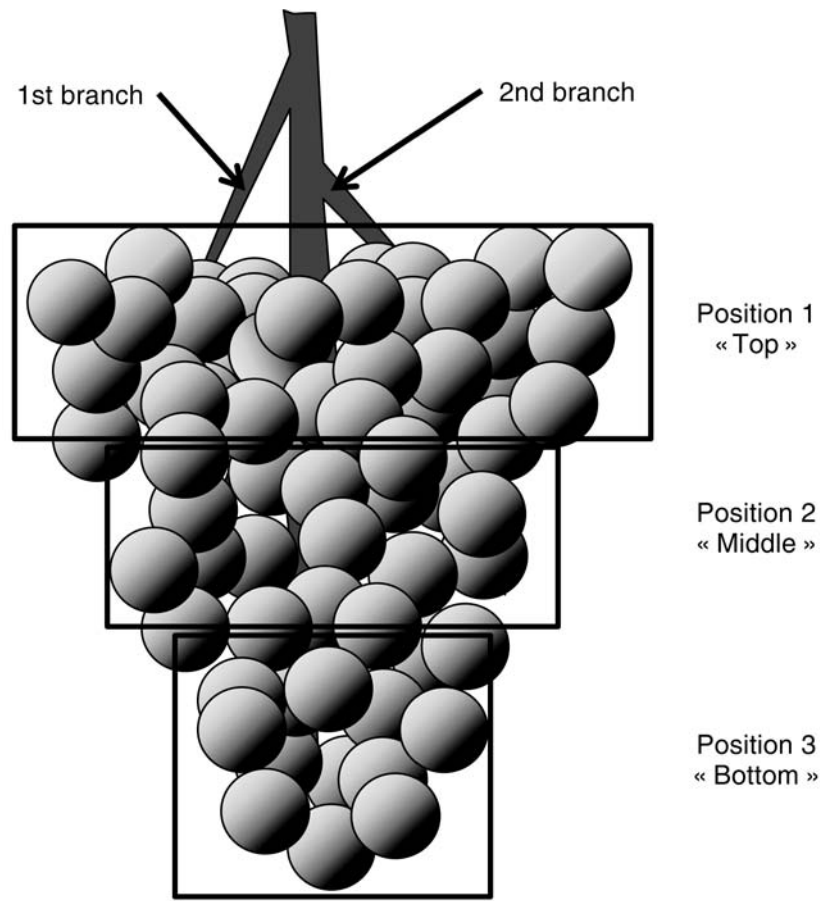
	Mean value \pm sd		t test	Probability	Significance
	Whole bunch sampling	Middle position sampling			
Height (mm)	12.25 \pm 1.15	12.21 \pm 1.06	0.86	0.38	ns
Berry vol (mm ³)	989.20 \pm 286.02	976.94 \pm 259.27	1.24	0.21	ns
Fresh weight (g)	1.22 \pm 0.30	1.21 \pm 0.29	0.19	0.84	ns
Density (g/L equiv NaCl)	147.37 \pm 22.98	146.78 \pm 22.17	0.72	0.46	ns
Seed number	1.37 \pm 0.56	1.35 \pm 0.54	1.34	0.17	ns
Seed wt (mg)	37.77 \pm 16.58	37.47 \pm 15.45	0.51	0.6	ns
Dry wt (g)	0.29 \pm 0.08	0.29 \pm 0.08	0	0.99	ns
Water content (mL)	0.92 \pm 0.24	0.92 \pm 0.23	-0.05	0.95	ns
% Water (% of fresh wt)	75.42 \pm 3.86	75.48 \pm 3.68	-0.45	0.64	ns
Brix	22.42 \pm 5.13	22.39 \pm 4.83	0.2	0.83	ns
F1 (N)	2.86 \pm 0.61	2.85 \pm 0.53	0.72	0.44	ns
Grad0 (N/mm)	0.58 \pm 0.14	0.58 \pm 0.13	0.77	0.43	ns
Grad1 (N/mm)	1.42 \pm 0.33	1.41 \pm 0.29	0.57	0.56	ns
W1 (mJ)	2.03 \pm 0.68	2.01 \pm 0.62	1.09	0.27	ns
Cohesiveness	0.36 \pm 0.03	0.35 \pm 0.03	0.99	0.31	ns
Gumminess (N)	1.02 \pm 0.16	1.01 \pm 0.15	1.12	0.26	ns

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Supplemental Figure 1 Diagram representing the classification of berries according to their position in the bunch.