SUPPLEMENTARY DATA
Nicolle, P., Barthe, C., Dorais, M., Dubé, G., Angers, P. & Pedneault, K. (2023). Impact of cluster thinning and harvest date on berry volatile composition and sensory profile of *Vitis* sp. Seyval blanc and Vandal-Cliche. *OENO One*, *57*(4).
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Supplementary data

TABLE S1. Average temperatures (°C), rainfalls (mm), relative humidity (%) and solar radiation (W/m^2) from the beginning to the end of the season for for Seyval blanc experimental sites located in Montérégie in 2012 (n = 3) and Vandal-Cliche sites located in Quebec region, in 2012 (n = 3) and 2013 (n = 2).

Cultivar	Season	Region[a]	Period	Solar radiation (W/m^2)		Temperature (°C)			Relative humidity (%)	Rainfall (mm)
				Average/ day	Total	Min	Max	Average		
Seyval blanc	2012	Montérégie	13/04 to 07/11	176	1 760 042	– 7.75	33.9	16.2	75.3	491
Vandal-Cliche	2012	Québec	17/04 to 13/11	156	1 569 608	– 7.80	33.8	14.3	76.6	595
	2013	Québec	01/04 to 05/11	166	1 739 405	– 8.55	33.9	13.2	77.8	728

[a] The experiment on Seyval blanc (carried on the Monteregie sites) could not be pursued in 2013 due to a significant spring frost that damaged the vines. This event also forced to abandon one site for Vandal-Cliche in Quebec in 2013.

TABLE S2. Mineral composition (phosphorus, potassium, calcium and magnesium, in kg/ha and aluminium, in mg/L) and organic matter content (%) of the soil of each experimental site for Seyval blanc, located in the region of Montérégie, and Vandal-Cliche, located in the region of Quebec. Analyses were carried out in 2012.

Cultivar	Region	Site	Mineral composition[a]					Organic matter content (%)
			P	K	Ca	Mg	Al	
Seyval blanc	Montérégie	V1M	123	193	1 809	152	1 271	2.71
		V2M	256	232	4 129	393	1 150	4.80
		V3M	282	339	5 500	429	918	5.70
Vandal-Cliche	Québec	V1Q	53	250	6 413	304	1 089	3.90
		V2Q	110	804	3 276	346	1 079	4.60
		V3Q	99	349	6 153	310	750	4.50

[a]Data are in kg/ha, except for Al which is in mg/L soil.

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TABLE S2. Vineyard configuration, canopy size and calculated external surface of the plant cover (SECV) of Seyval blanc and Vandal-Cliche parcels in 2012.

Cultivar	Region	Site	Vineyard configuration		Canopy			SECV (m^2/m^2) [a]
			Rows distanciation (m)	Plants distanciation (m)	Height (m)	Width (m)	Density estimate (% holes)	
Seyval blanc	Montérégie	VM1	3.10	0.90	1.20	0.50	0.03	0.91
		VM2	2.90	0.80	1.40	0.50	0.25	0.85
		VM3	2.50	0.80	1.30	0.50	0.05	1.18
Vandal-Cliche	Québec	VQ1	2.70	1.40	1.20	0.50	0.05	1.02
		VQ2	3.40	1.30	1.40	0.50	0.10	0.87
		VQ3	3.70	1.20	1.50	0.50	0.03	0.92

[a] External surface of the plant cover (SECV), calculated using the following formula: SECV = (2 x H + W) x (1 - T) / Er, where Height (H): height of vegetation (in m); Width (W): vegetation width (in m); Er : rows distanciation (in m); Density estimate (T) = percentage of hole.

TABLE S3. Crop load adjustment for Seyval blanc and Vandal-Cliche in both years of study.

Crop load level | Cultivar	Clusters/plant	
	Seyval blanc	Vandal-Cliche
100% (CONTROL)	>15	38
70%	9 to 14	26
40%	5 to 8	15

TABLE S4. Targeted growing-degree days (base of 10 °C) and real growing-degree days accumulated at harvests (dates 1 to 3) of Seyval blanc and Vandal-Cliche in 2012 and 2013. Data represent the average GDD recorded on the experimental site (n = 2 to 3).

Season	Cultivar	Sampling date		Targeted GDD	Real GDD
2012	Seyval blanc	Date 1	10/09/2012	975-1025	1 191 ± 141
		Date 2	17/09/2012	1075-1125	1 239 ± 147
		Date 3	24/09/2012	1125-1175	1 262 ± 141
	Vandal-Cliche	Date 1	20/09/2012	925-975	1 137 ± 93
		Date 2	27/09/2012	975-1025	1 152 ± 98
		Date 3	03/10/2012	1025-1075	1 164 ± 96
2013	Vandal-Cliche	Date 1	18/09/2013	925-975	973 ± 0
		Date 2	02/10/2013	975-1025	1 034 ± 1
		Date 3	09/10/2013	1025-1075	1 049 ± 0

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TABLE S5. Descriptors and intensity levels used for berry sensory analysis according to the adaptation of the method of Rousseau and Delteil (2000). Discrete values going from 0 to 4 were used in 2012, whereas continuous values positionned on a 0 to 150 mm line were used in 2013.

Descriptor	Intensity level (from the lowest grade to the highest grade)
Berry colour (if heterogeneous, the colour the lower perceived)	Green or pale yellow TO amber yellow
Pulp aroma (dominant aromas released during juice tasting)	Green TO jam (peach)
Pulp sweetness (after skin removal)	Slightly sweet TO very sweet
Pulp acidity (after skin removal)	Slightly acid TO very acid
Skin aroma (dominant aromas released after skin mastication)	Green TO marmalade (peach)
Skin astringency (after applying the broyat on the palate)	Very difficult to glide and resalivate TO glide without effort and resalivate easily
Skin softness (aspect of the broyat)	Very hard (coarse fragments) TO very easily crushed (easy to ‘dissolve’)
Seed colour (when seeds are still wet)	White or yellow-green TO dark brown

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TABLE S6. Impact of crop load level (100 %, 70 %, 40 % cluster thinned) and harvest date (date 1 to 3, one week interval between sampling) on the grape free aroma content (µg/L, in must) of the interspecific hybrid Vitis varieties Seyval blanc (2012) and Vandal-Cliche (2012, 2013) grown in Quebec, Canada. (Means, *p*-values and statistics).

	Berry colour	**Pulp aroma**	**Pulp sweetness**	**Pulp acidity**	**Skin aroma**	**Skin astringency**	**Skin softness**	**Seed colour**
Seyval blanc (2012)								
Crop load level								
100%	1.39	2.51	2.28	2.92	1.94	3.15	2.31	3.00
70%	1.37	2.58	2.38	2.99	2.16	3.20	2.39	3.02
40%	1.41	2.56	2.35	3.02	2.24	3.21	2.56	3.07
Sampling date								
Date 1	1.18 b[1]	2.50	2.31	2.90	2.39	3.09	2.13 b	2.97
Date 2	1.30 ab	2.52	2.23	2.99	1.89	3.20	2.45 ab	2.99
Date 3	1.65 a	2.63	2.48	3.03	2.10	3.26	2.66 a	3.13
p *value*								
Crop load	0.8961	0.9632	0.8726	0.9349	0.3691	0.9481	0.1896	0.7389
Sampling date	0.0090	0.8627	0.4673	0.9049	0.0881	0.5656	0.0088	0.2492
Crop load*Sampling date	0.2608	0.9437	0.9557	0.7763	0.9510	0.3164	0.4231	0.6932
Vandal-Cliche, 2012								
Crop load level								
100%	1.06	2.76	2.23	2.47	1.68	3.42 a	1.67	2.27
70%	1.18	2.34	2.11	2.19	1.29	3.12 b	1.79	2.21
40%	1.04	2.70	2.32	2.41	1.54	3.07 b	1.81	2.26
Sampling date								
Date 1	1.00	2.38	2.11	2.37 ab	1.24	3.22	1.49 b	2.17 b
Date 2	1.17	2.81	2.27	2.64 a	1.67	3.17	1.66 b	1.96 c
Date 3	1.11	2.61	2.28	2.06 b	1.61	3.22	2.11 a	2.61 a
p *value*								
Crop load	0.3092	0.2254	0.6453	0.4122	0.2533	0.0151	0.5301	0.7360
Sampling date	0.2333	0.2586	0.7151	0.0466	0.1592	0.8816	0.0004	≤.0001
Crop load*Sampling date	0.5757	0.8363	0.9816	0.4655	0.262	0.0068	0.9882	0.7329
Vandal-Cliche, 2013								
Crop load level								
100%	13.1 c	77.2 b	66.2 b	72.1 a	44.3 c	99.6 a	45.7 b	67.9 b
70%	19.5 b	81.4 a	67.1 b	60.3 b	54.4 a	95.5 b	53.8 a	82.6 a
40%	27.1 a	83.7 a	74.2 a	57.3 b	50.9 b	98.9 a	56.7 a	81.8 a
Sampling date								
Date 1	18.5	82.7	71.8 a	62.8 ab	50.2 ab	97.2	50.8 b	79.5
Date 2	19.6	78.6	65.7 b	67.2 a	48.1 b	99.6	51.6 ab	76.0
Date 3	21.5	81.0	69.9 a	59.8 b	51.4 a	97.2	53.8 a	76.8
p *value*								
Crop load	≤.0001	0.0012	≤.0001	≤.0001	≤.0001	0.0006	≤.0001	≤.0001
Sampling date	0.2395	0.0614	0.0018	0.0008	0.0414	0.0521	0.0421	0.0567
Crop load*Sampling date	0.4403	0.4333	0.0114	0.0009	0.0063	<.0001	0.0337	0.2714

[1] For a given variable and treatment (Crop load or Sampling date), different letters indicate significant differences at $p \leq 0.05$, according to Tuckey's honest significant difference test.