

[Back to article](#)**Table S1.** Weather conditions during vegetation period (April–September) in 2015 and 2016 (Weather station Benkovac)

Month	Average temperature/°C		Precipitation/mm	
	2015	2016	2015	2016
April	12.0	13.8	30.0	53.4
May	18.0	16.1	89.3	93.2
June	22.3	20.8	16.5	141.3
July	26.5	25.2	34.3	1.2
August	24.8	23.4	76.2	57.5
September	19.6	19.6	75.1	99.7
Mean temperature	20.5	19.8		
Cumulative precipitation			321.4	446.2

[Back to article](#)**Table S2.** Concentration of anthocyanins in Merlot wine obtained from the grapes from which leaves were removed during flowering (LRF) and during véraison (LRV) after different ageing period (bottling, 6 and 12 months) in 2015 and 2016

Year	Treatment	t/month	µ/(mg/L)							Total
			Pet-3-Glc	Peo-3-Glc	Malv-3-Glc	Pet-3-Coum-Glc	Peo-3-Coum-Glc	Mal-3-Ac-Glc	Mal-3-Coum-Glc	
2015	Control	0	3.1±0.1	1.18±0.02	50.14±0.04	0.77±0.04	1.19±0.04	19.3±0.1	10.75±0.07	86.4±0.4
		6	2.87±0.04	1.15±0.03	42.75±0.06	0.62±0.03	0.92±0.09	15.73±0.06	8.17±0.02	72.2±0.3
		12	n.d.	n.d.	14.74±0.09	n.d.	0.78±0.04	4.98±0.07	1.88±0.04	22.4±0.2
	LRF	0	6.27±0.03	1.66±0.05	90.55±0.07	1.73±0.05	1.96±0.07	36.04±0.09	20.77±0.05	159.0±0.2
		6	2.39±0.05	0.78±0.05	34.2±0.2	0.51±0.06	1.35±0.07	11.3±0.1	5.74±0.07	56.2±0.3
		12	n.d.	n.d.	10.5±0.2	n.d.	1.19±0.03	3.29±0.05	1.19±0.03	16.2±0.1
	LRV	0	4.67±0.2	1.4±0.2	73.0±0.2	1.3±0.2	1.8±0.2	29.8±0.2	15.9±0.2	128.0±0.2
		6	2.63±0.05	0.96±0.05	38.9±0.1	0.60±0.03	1.48±0.02	14.0±0.1	6.82±0.04	65.3±0.3
		12	n.d.	n.d.	14.40±0.04	n.d.	1.07±0.05	5.0±0.1	1.8±0.1	22.29±0.06
2016	Control	0	3.0±0.2	3.22±0.08	58.7±0.3	n.d.	1.20±0.06	21.46±0.07	11.77±0.03	99.7±0.7
		6	2.16±0.06	0.67±0.08	37.6±0.2	n.d.	0.67±0.06	10.0±0.2	6.0±0.1	57.1±0.7
		12	1.21±0.04	n.d.	21.58±0.06	n.d.	n.d.	4.9±0.1	3.1±0.1	30.8±0.3
	LRF	0	3.2±0.1	4.16±0.08	66.6±0.1	1.18±0.05	1.0±0.1	23.2±0.2	14.04±0.06	113.4±0.5
		6	3.07±0.09	0.95±0.07	52.86±0.09	n.d.	0.87±0.08	14.2±0.03	9.2±0.1	81.2±0.5
		12	2.45±0.07	n.d.	38.0±0.1	n.d.	n.d.	8.4±0.1	7.0±0.1	55.9±0.2
	LRV	0	4.76±0.07	4.33±0.05	74.1±0.1	1.53±0.08	1.41±0.06	29.9±0.2	14.25±0.04	130.2±0.4
		6	4.31±0.04	1.46±0.06	70.46±0.07	n.d.	1.09±0.06	22.54±0.06	12.0±0.1	111.8±0.3
		12	3.47±0.06	n.d.	46.85±0.06	n.d.	n.d.	12.86±0.06	8.08±0.09	71.3±0.1

Results are expressed as mean value±S.D. (N=3); n.d.=not detected. Abbreviations: Pet-3-Glc=petunidin-3-O-glucoside, Peo-3-Glc=peonidin-3-O-glucoside, Malv-3-Glc=malvidin-3-O-glucoside, Pet-3-Coum-Glc=petunidin-3-O-(coumaroyl) glucoside, Peo-3-Coum-Glc=peonidin-3-O-(coumaroyl) glucoside, Mal-3-Ac-Glc=malvidin-3-O-(acetyl) glucoside, Mal-3-Coum-Glc=malvidin-3-O-(coumaroyl)

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Table S3. Concentration of anthocyanins in Syrah wine obtained from the grapes from which leaves were removed during flowering (LRF) and during véraison (LRV) at different ageing period (bottling, 6 and 12 months) in 2015 and 2016

Year	Treatment	t/month	$\mu\text{g/L}$							Total
			Pet-3-Glc	Peo-3-Glc	Malv-3-Glc	Pet-3-Coum-Glc	Peo-3-Coum-Glc	Mal-3-Ac-Glc	Mal-3-Coum-Glc	
2015	Control	0	5.38±0.05	4.16±0.06	79.7±0.4	2.52±0.03	4.56±0.03	38.2±0.1	19.70±0.02	154.3±0.5
		6	4.2±0.1	3.37±0.03	60.5±0.2	1.32±0.02	2.67±0.06	23.01±0.05	13.66±0.03	108.8±0.2
		12	1.21±0.03	1.59±0.04	29.5±0.6	0.84±0.04	1.01±0.06	12.20±0.02	6.1±0.1	52.5±0.6
	LRF	0	5.72±0.04	3.90±0.04	94.1±0.4	3.94±0.09	4.35±0.05	42.94±0.08	19.20±0.07	174.2±0.3
		6	4.57±0.07	2.70±0.02	68.1±0.2	1.41±0.02	2.52±0.08	25.57±0.08	16.77±0.08	121.65±0.08
		12	1.07±0.08	1.18±0.02	28.4±0.4	0.91±0.02	1.59±0.06	11.48±0.04	5.30±0.05	50.0±0.4
	LRV	0	6.95±0.08	5.27±0.04	109.7±0.4	2.41±0.02	5.7±0.1	51.16±0.06	27.9±0.1	209.2±0.7
		6	4.76±0.07	3.69±0.04	73.6±0.5	1.7±0.1	2.99±0.05	27.4±0.1	17.38±0.04	131.6±0.6
		12	1.3±0.1	1.86±0.04	36.7±0.4	1.12±0.06	1.02±0.03	14.27±0.06	7.66±0.05	63.9±0.4
2016	Control	0	3.41±0.06	2.0±0.1	65.2±0.3	n.d.	3.42±0.06	31.76±0.08	17.26±0.04	123.2±0.3
		6	2.63±0.07	1.64±0.06	52.4±0.5	n.d.	1.80±0.02	16.54±0.05	10.68±0.02	85.7±0.7
		12	1.55±0.07	1.1±0.2	32.0±0.6	n.d.	n.d.	10.16±0.08	6.1±0.1	50.8±0.8
	LRF	0	3.74±0.04	1.7±0.2	70.8±0.2	n.d.	2.35±0.09	30.04±0.06	16.48±0.03	125.1±0.4
		6	2.08±0.08	0.95±0.09	40.0±0.4	n.d.	1.10±0.08	12.8±0.1	7.04±0.06	64.0±0.4
		12	1.34±0.06	0.64±0.07	26.8±0.2	n.d.	n.d.	8.97±0.07	4.38±0.04	42.2±0.2
	LRV	0	4.79±0.02	2.41±0.04	72.6±0.4	n.d.	4.20±0.05	34.15±0.06	18.85±0.04	137.0±0.4
		6	2.91±0.04	1.66±0.06	56.0±0.1	n.d.	1.87±0.03	17.47±0.05	11.14±0.08	91.1±0.2
		12	1.93±0.09	1.06±0.09	34.6±0.5	n.d.	1.07±0.06	10.75±0.05	6.40±0.05	55.8±0.6

Results are expressed as mean value±S.D. (N=3); n.d.=not detected. Abbreviations: Pet-3-Glc=petunidin-3-O-glucoside, Peo-3-Glc=peonidin-3-O-glucoside, Malv-3-Glc=malvidin-3-O-glucoside, Pet-3-Coum-Glc=petunidin-3-O-(coumaroyl) glucoside, Peo-3-Coum-Glc=peonidin-3-O-(coumaroyl) glucoside, Mal-3-Ac-Glc=malvidin-3-O-(acetyl) glucoside, Mal-3-Coum-Glc=malvidin-3-O-(coumaroyl)

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Table S4. Concentration of anthocyanins in Cabernet Sauvignon wine obtained from the grapes from which leaves were removed during flowering (LRF) and véraison (LRV) at ageing period (bottling, 6 and 12 months) for 2015 and 2016

Year	Treatment	t/month	$\mu\text{g/L}$							Total
			Pet-3-Glc	Peo-3-Glc	Malv-3-Glc	Pet-3-Coum-Glc	Peo-3-Coum-Glc	Mal-3-Ac-Glc	Mal-3-Coum-Glc	
2015	Control	0	3.57±0.04	0.82±0.04	97.9±0.3	1.29±0.05	1.46±0.05	45.1±0.2	9.84±0.07	160.0±0.2
		6	2.0±0.1	n.d.	56.9±0.1	1.02±0.07	0.76±0.07	23.9±0.2	4.2±0.2	88.7±0.2
		12	n.d.	n.d.	23.76±0.04	0.12±0.02	0.38±0.03	10.82±0.3	1.5±0.1	36.6±0.3
	LRF	0	3.5±0.2	1.2±0.1	89.8±0.5	1.32±0.03	1.40±0.02	38.5±0.3	7.06±0.09	142.7±0.8
		6	1.97±0.08	n.d.	50.5±0.2	1.14±0.01	0.97±0.08	22.68±0.08	3.2±0.1	80.6±0.3
		12	n.d.	n.d.	22.83±0.06	1.02±0.04	0.53±0.04	10.1±0.2	1.13±0.06	35.6±0.2
	LRV	0	2.77±0.04	0.87±0.04	68.76±0.04	1.67±0.04	1.1±0.1	30.7±0.7	7.0±0.1	112.9±0.7
		6	1.96±0.08	0.58±0.04	50.24±0.07	1.23±0.08	0.79±0.02	19.9±0.3	4.75±0.06	79.47±0.28
		12	n.d.	n.d.	23.58±0.09	0.89±0.03	0.59±0.04	9.57±0.08	1.74±0.03	36.4±0.1
2016	Control	0	1.14±0.08	3.25±0.09	70.93±0.1	n.d.	1.18±0.08	33.4±0.5	7.3±0.3	117.3±0.2
		6	n.d.	2.16±0.09	58.94±0.08	n.d.	0.87±0.04	27.73±0.4	4.9±0.1	94.6±0.43
		12	n.d.	1.60±0.05	47.4±0.1	n.d.	n.d.	20.9±0.2	5.36±0.09	75.3±0.3
	LRF	0	1.95±0.07	4.88±0.03	81.9±0.2	n.d.	2.0±0.1	34.7±0.3	6.64±0.04	132.2±0.5
		6	0.1±0.2	3.62±0.03	65.0±0.1	n.d.	1.20±0.03	26.7±0.4	4.3±0.2	100.9±0.6
		12	n.d.	3.46±0.06	54.4±0.3	n.d.	n.d.	21.7±0.1	5.1±0.2	84.6±0.2
	LRV	0	1.80±0.04	4.2±0.2	76.5±0.4	n.d.	1.14±0.02	32.48±0.08	8.6±0.1	124.7±0.7
		6	n.d.	2.41±0.04	50.0±0.2	n.d.	0.82±0.03	20.2±0.2	4.52±0.05	77.96±0.2
		12	n.d.	1.54±0.06	32.8±0.2	n.d.	n.d.	11.89±0.07	3.0±0.1	49.2±0.1

Results are expressed as mean value±S.D. (N=3); n.d.=not detected. Abbreviations: Pet-3-Glc=petunidin-3-O-glucoside, Peo-3-Glc=peonidin-3-O-glucoside, Malv-3-Glc=malvidin-3-O-glucoside, Pet-3-Coum-Glc=petunidin-3-O-(coumaroyl) glucoside, Peo-3-Coum-Glc=peonidin-3-O-(coumaroyl) glucoside, Mal-3-Ac-Glc=malvidin-3-O-(acetyl) glucoside, Mal-3-Coum-Glc=malvidin-3-O-(coumaroyl)

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Table S5. The effect of leaf removal on the concentration of total phenolic acids, total procyanidins, total flavan-3-ols and total flavonol glycosides during different ageing period (0, 6 and 12 months) in Merlot, Syrah and Cabernet Sauvignon wines (2015/2016)

Year	Treatment	t/month	γ(total phenolic acid)/(mg/L)			γ(total procyanidin)/(mg/L)			γ(total flavan-3-ol)/(mg/L)			γ(total flavonol glycoside)/(mg/L)		
			Merlot	Syrah	Cabernet Sauvignon	Merlot	Syrah	Cabernet Sauvignon	Merlot	Syrah	Cabernet Sauvignon	Merlot	Syrah	Cabernet Sauvignon
2015	Control	0	52.5±0.2	83.36±0.05	43.2±0.2	93.1±0.4	92.5±0.1	59.9±0.3	22.04±0.05	56.8±0.2	21.1±0.1	37.3±0.3	91.1±0.5	35.8±0.3
		6	50.6±0.1	102.54±0.05	48.6±0.1	89.2±0.4	87.4±0.4	57.88±0.09	20.7±0.2	58.73±0.07	17.94±0.06	28.4±0.3	75.6±0.5	26.6±0.2
		12	51.4±0.1	106.7±0.1	50.3±0.1	67.3±0.3	75.0±0.4	45.5±0.2	17.3±0.2	105.5±0.5	18.6±0.5	16.3±0.4	42.8±0.1	13.8±0.2
	LRF	0	59.9±0.1	87.4±0.2	41.1±0.2	100.1±0.6	88.6±0.3	46.1±0.2	26.9±0.4	61.9±0.6	20.4±0.2	58.4±0.5	112.8±0.2	33.1±0.1
		6	60.4±0.6	95.7±0.2	44.7±0.8	77.3±0.6	83.1±0.5	43.8±0.3	22.02±0.04	59.3±0.6	20.3±0.2	32.7±0.2	83.9±0.4	23.0±0.1
		12	63.5±0.5	96.94±0.07	45.3±0.1	65.5±0.4	66.5±0.2	44.2±0.3	18.1±0.1	91.0±0.5	22.6±0.3	19.3±0.5	52.0±0.6	12.4±0.8
	LRV	0	63.3±0.4	82.95±0.1	47.0±0.4	112.7±0.3	93.64±0.03	56.2±0.3	28.84±0.08	64.6±0.4	17.3±0.1	49.4±0.2	111.7±0.7	29.2±0.4
		6	62.9±0.6	82.06±0.08	56.1±0.3	92.4±0.4	84.1±0.1	45.1±0.3	23.7±0.1	58.5±0.2	20.1±0.1	32.9±0.6	62.0±0.4	25.1±0.3
		12	62.26±0.03	84.8±0.4	57.1±0.4	81.3±0.6	54.3±0.2	40.1±0.2	20.0±0.1	78.1±0.8	20.5±0.2	18.3±0.3	31.9±0.1	11.5±0.4
2016	Control	0	60.5±0.2	79.89±0.09	81.0±0.7	110.7±0.6	98.17±0.06	34.7±0.3	17.2±0.1	30.48±0.08	14.7±0.2	15.3±0.2	41.4±0.4	13.3±0.2
		6	60.9±0.2	83.95±0.06	27.3±0.3	99.6±0.3	70.1±0.2	40.7±0.3	29.0±0.4	27.3±0.2	54.5±0.2	20.14±0.03	41.6±0.1	11.44±0.05
		12	75.0±0.3	108.3±0.3	60.3±0.3	67.2±0.3	56.7±0.5	41.8±0.1	32.6±0.2	24.6±0.2	65.2±0.1	21.5±0.1	37.4±0.5	9.2±0.2
	LRB	0	86.1±0.3	104.9±0.2	93.7±0.4	118.89±0.06	66.2±0.4	73.7±0.1	18.94±0.05	31.8±0.4	18.8±0.3	31.9±0.2	81.9±0.5	30.1±0.1
		6	84.1±0.5	110.5±0.1	38.9±0.2	92.8±0.2	58.8±0.9	60.6±0.4	28.97±0.02	30.0±0.5	55.4±0.7	30.2±0.1	60.7±0.1	20.4±0.3
		12	105.9±0.5	136.8±0.8	89.9±0.4	69.0±0.4	45.5±0.2	50.9±0.2	36.0±0.2	25.4±0.1	62.8±0.4	30.8±0.3	49.9±0.2	27.4±0.4
	LRV	0	74.8±0.4	78.7±0.6	81.45±0.09	124.0±0.1	65.8±0.2	46.4±0.8	22.1±0.2	37.3±0.4	17.7±0.3	22.3±0.8	61.3±0.2	24.2±0.3
		6	80.8±0.6	86.1±0.5	33.2±0.4	92.1±0.1	49.6±0.8	42.9±0.3	24.8±0.5	32.1±0.8	46.5±0.4	21.3±0.1	53.0±0.4	15.4±0.4
		12	94.3±0.8	108.8±0.4	22.8±0.2	73.8±0.5	41.9±0.2	32.0±0.4	26.9±0.6	25.0±0.3	48.1±0.2	22.7±0.6	41.7±0.1	14.0±0.2

Results are expressed as mean value±S.D., N=3