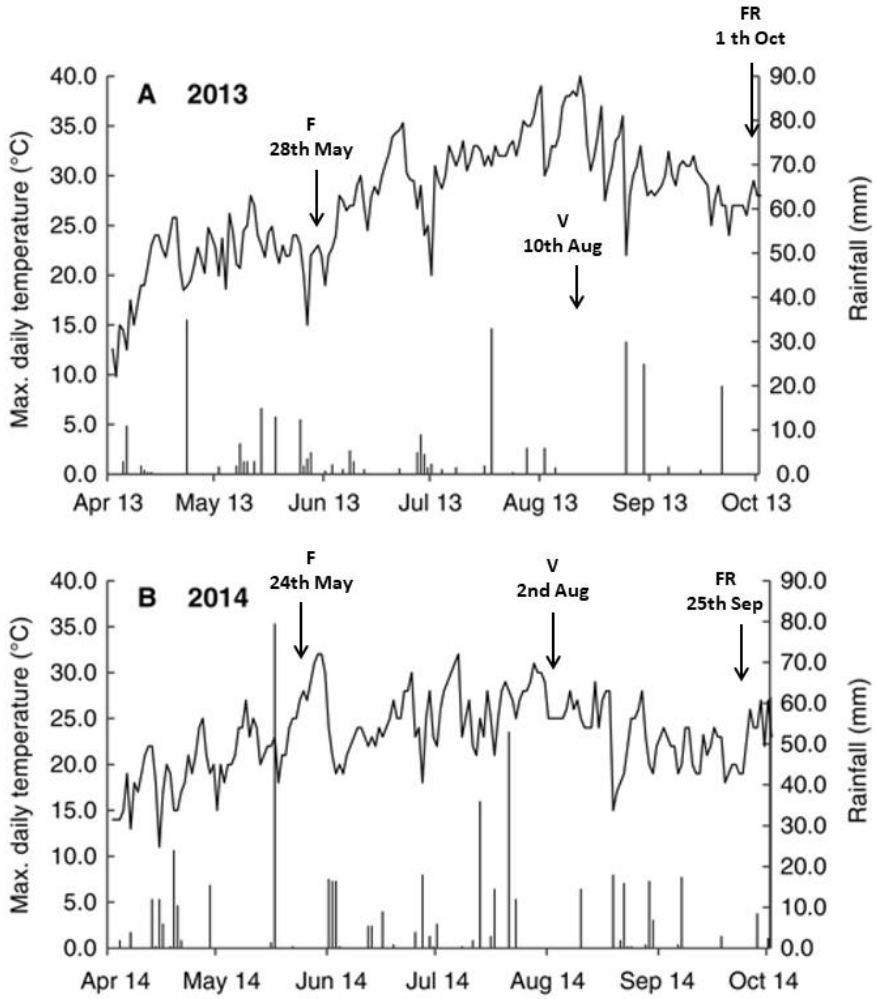
SUPPLEMENTARY DATA
Tessarin, P., Ricci, A., Baraldi, G., Lombini, A., P. Parpinello, G. & Rombolà, A. D. (2022). Beneficial effects of bunch-zone late defoliations and shoot positioning on berry composition and colour components of wines undergoing aging in an organically-managed and rainfed Sangiovese vineyard. *OENO One*, *56(*4).
https://doi.org/10.20870/oeno-one.2022.56.4.5377

Supplemental Material



SUPPLEMENTARY FIGURE 1. Vines submitted to “semi-ballerina” shoot positioning in the organically-managed rainfed Sangiovese vineyard.

SUPPLEMENTARY DATA
Tessarin, P., Ricci, A., Baraldi, G., Lombini, A., P. Parpinello, G. & Rombolà, A. D. (2022). Beneficial effects of bunch-zone late defoliations and shoot positioning on berry composition and colour components of wines undergoing aging in an organically-managed and rainfed Sangiovese vineyard. *OENO One*, *56*(4).
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SUPPLEMENTARY FIGURE 2. Maximum daily air temperatures and rainfall in 2013 and 2014.

Seasonal trends in maximum daily air temperature (black line) in 2013 (A) and 2014 (B), 800 m from the trial site. Vertical bars indicate daily rainfall. Arrowheads indicate the occurrence of the main phenological stages. Floweing (F); Veraison (V); Full Ripening (FR). Figure modified from Tessarin *et al.* (2018).

Mafata, M., Brand, J., & Buica, A. (2022). Data fusion using Multiple Factor Analysis coupled with non-linear pattern recognition (fuzzy k-means): application to Chenin blanc. *OENO One*, *56*(3).
https://doi.org/10.20870/oeno-one.2022.56.3.5374

SUPPLEMENTARY TABLE 1. Concentrations of leaf macronutrients of cv. Sangiovese vines submitted to the different canopy management treatments.

2013	N	P	K	Ca	Mg
Treatments	%	%	%	%	%
CK	1.8	0.17	1.16	3.28	0.39
DEF I	1.9	0.18	1.28	3.18	0.32
DEF II	1.7	0.16	1.18	3.57	0.40
SB	1.7	0.16	1.10	3.09	0.37
Significance	*n.s.**	*n.s.*	*n.s.*	*n.s.*	*n.s.*
2014	N	P	K	Ca	Mg
Treatments	%	%	%	%	%
CK	1.9	0.17	1.26	2.91	0.30
DEF I	1.9	0.18	1.27	2.99	0.29
DEF II	1.9	0.17	1.20	2.99	0.30
SB	1.9	0.18	1.25	3.18	0.32
Significance	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*

*not significant (P = 0.05). CK, control vines; DEF I, vines defoliated in post-veraison; DEF II, vines defoliated in pre-harvest, SB, vines submitted to “semi-ballerina” effect.

SUPPLEMENTARY TABLE 2. Dates of phenological phases and interventions.

Year	DAF	Date	Phenological Phase	Interventions
		28 May	Flowering	
	75	10 August	Veraison	LGE/SWP
2013	86	21 August	Ripening	DEFI/SB
	101	5 September	Ripening	DEFII
	113	17 September	Ripening	LGE
	127	1 October	Full Ripening	LGE/Harvest
		24 May	Flowering	
	70	1 August	Pre-veraison	LGE
	71	2 August	Veraison	
	75	6 August	Ripening	SWP
2014	92	23 August	Ripening	DEFI/SB
	106	6 September	Ripening	DEFII
	109	9 September	Ripening	LGE/SWP
	118	18 September	Ripening	LGE/SWP
	125	25 September	Full ripening	Harvest

Legend. Leaf gas exchange (LGE); Stem water potential (SWP); Defoliation imposed at post-veraison (DEF I); “semi-ballerina” shoot positioning (SB); Defoliation imposed at pre-harvest (DEF II); Harvest.

SUPPLEMENTARY TABLE 3. Stem water potential of cv. Sangiovese vines submitted to the different canopy management treatments.

	2013				**2014**			
Treatment	CK	DEF I	DEF II	SB	CK	DEF I	DEFII	SB
75 DAF	-1.38	-1.33	-1.48	-1.30				
109 DAF					-0.78	-0.71	-0.82	-0.82
118 DAF					-0.81	-0.70	-0.86	-0.86

SUPPLEMENTARY DATA
Mafata, M., Brand, J., & Buica, A. (2022). Data fusion using Multiple Factor Analysis coupled with non-linear pattern recognition (fuzzy k-means): application to Chenin blanc. *OENO One*, *56*(3).
https://doi.org/10.20870/oeno-one.2022.56.3.5374

SUPPLEMENTARY TABLE 4. Net photosynthesis and stomatal conductance of cv. Sangiovese vines submitted to the different canopy management treatments.

	75 DAF				113 DAF				127 DAF			
2013	Net photosynthesis µmol CO_2 m^{-2} s^{-1}		Stomatal Conductance mol H_2O m^{-2} s^{-1}		Net photosynthesis µmol CO_2 m^{-2} s^{-1}		Stomatal Conductance mol H_2O m^{-2} s^{-1}		Net photosynthesis µmol CO_2 m^{-2} s^{-1}		Stomatal Conductance mol H_2O m^{-2} s^{-1}	
Treatments	0900-1030	1500-1630	0900-1030	1500-1630	0900-1030	1500-1630	0900-1030	1500-1630	0900-1030	1500-1630	0900-1030	1500-1630
CK	6.0	8.2	0.097	0.120	8.1	8.4	0.198	0.221	8.8	ND	0.195	ND
DEF I	3.2	7.6	0.055	0.132	8.5	7.3	0.215	0.131	7.0	ND	0.251	ND
DEF II	10.7	1.3	0.164	0.176	11.6	9.2	0.229	0.158	7.5	ND	0.264	ND
SB	9.2	8.6	0.166	0.164	6.6	7.3	0.223	0.136	7.8	ND	0.211	ND
Significance	*n.s.*	*n.s*	*n.s*	*n.s.*	*n.s.*	*n.s*	n.s.	*n.s.*	*n.s.*	ND	*n.s.*	ND
	70 DAF				**109 DAF**				**118 DAF**			
2014	5.6	6.8	0.096	0.129	11.2	8.3	0.405	0.315	7.6	7.8	0.286	0.299 ab
CK	4.8	5.4	0.097	0.085	9.7	8.5	0.315	0.306	8.3	8.6	0.260	0.326 a
DEF I	5.7	6.3	0.114	0.105	7.9	6.5	0.406	0.339	6.5	8.5	0.291	0.254 b
DEF II	6.7	6.6	0.111	0.093	11.8	8.0	0.369	0.299	8.0	9.2	0.267	0.253 ab
SB	*n.s*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*n.s.*	*
Significance												

*Significant at $P \leq 0.05$; n.s., not significant ($P = 0.05$). Means followed by different letter in each row are significantly different according to the Student Newman-Keuls test.
CK, control vines; DEF I, vines defoliated in post-veraison; DEF II, vines defoliated in pre-harvest, SB, vines submitted to "semi-ballerina" effect.; †ND, not detected.

SUPPLEMENTARY TABLE 5. Berry weight (g), technological parameters (total soluble solids, pH, titratable acidity) of cv. Sangiovese vines submitted to the different canopy management treatments.

Year	Treatments	Berry weight (g)	TSS (Brix)	pH	TA (g/L tartaric acid)
2013	CK	2.5	23.6	3.25	7.0
	DEF I	2.5	23.9	3.26	6.8
	DEF II	2.5	23.6	3.25	6.8
	SB	2.5	23.9	3.23	7.2
	Significance	*n.s.**	*n.s.*	*n.s.*	*n.s.*
2014	CK	2.9	18.8	3.17	8.6
	DEF I	2.9	19.1	3.19	8.3
	DEF II	2.9	19.6	3.20	8.4
	SB	2.7	18.8	3.14	8.5
	Significance	*n.s.*	*n.s.*	*n.s.*	*n.s.*

*not significant (P = 0.05) according to the Student- Newman-Keuls test. CK, control vines; DEF I, vines defoliated in post-veraison; DEF II, vines defoliated in pre-harvest, SB, vines submitted to “semi-ballerina” effect. TSS: total soluble solids; TA: titratable acidity.

SUPPLEMENTARY TABLE 6. Temperature of exposed clusters of cv. Sangiovese vines submitted to the different canopy management treatments.

2013	**85 DAF**		**101 DAF**		**113 DAF**	
Treatment	14.00-15.00	15.00-16.00	14.00-15.00	15.00-16.00	14.00-15.00	15.00-16.00
CK	35.7 b	37.0 b	32.3 b	41.3 b	31.0 b	27.7 ab
DEF I	38.0 a	38.3 a	38.7 a	41.0 b	34.3 a	24.0 b
DEF II	36.3 b	33.3 c	36.4 a	44.0 a	33.7 a	27.7 ab
SB	37.3 ab	38.7 a	35.3 ab	35.5 c	30.7 b	29.0 a
Significance	*	**	*	**	*n.s.*	*n.s.*
2014	**96 DAF**		**109 DAF**		**118 DAF**	
CK	25.2 b	26.1 b	30.8 b	31.4 b	28.2 b	25.5 b
DEF I	26.5 a	28.6 a	41.9 a	43.7 a	34.5 a	29.4 a
DEF II	25.3 b	26.6 b	42.5 a	42.3 a	34.2 a	29.4 a
SB	24.9 b	26.3 b	31.5 b	31.3 b	27.4 b	26.4 b
Significance	***	**	***	***	***	**