

TABLE 2

Impacts of basal leaf removal (LR) on Tempranillo grape juice over a period of three years (2014 to 2016).

		TSS at harvest (°Brix)	Titratable acidity (g/L) ²	pH	Tartaric acid (g/L)	Malic acid (g/L)	Anthocyanin concentration (mg/g)	Anthocyanin content (mg/berry)
2014	Control	22.3	3.45	4.12	4.2	3.5 a ³	1.29 b	1.97
	LR	22.6	3.65	4.04	4.6	2.9 b	1.45 a	2.31
	Sig ¹	ns	ns	ns	ns	*	***	ns
2015	Control	22.5	5.15	3.52	4.2 b	4.2 a	1.21	2.03
	LR	22.4	4.85	3.55	4.4 a	3.7 b	1.35	2.26
	Sig	ns	ns	ns	*	***	ns	ns
2016	Control	22.2	4.64	3.36	4.5 b	4.3	1.65	2.23
	LR	22.4	5.14	3.31	5.0 a	4.1	1.66	2.45
	Sig	ns	ns	ns	**	ns	ns	ns
Treatment (T)	Control	22.3	4.41	3.67	4.3 b	4.0 a	1.38	2.08
	LR	22.5	4.55	3.63	4.7 a	3.6 b	1.49	2.34
	Sig	ns	ns	ns	***	***	ns	ns
Year (Y)	2014	22.5	3.55 b	4.08 a	4.4 b	3.2 a	1.37 b	2.14
	2015	22.5	5.00 a	3.53 b	4.3 b	3.9 b	1.28 b	2.15
	2016	22.3	4.89 a	3.34 c	4.8 a	4.2 a	1.65 a	2.34
	Sig	ns	***	***	***	***	**	ns
T×Y	Sig	ns	**	ns	ns	ns	ns	ns

¹ Sig: Significance level; data within each year were analysed with the independent samples t-test; data of three years were analysed with two-way Anova (treatments × years); *, **, ***, ns: significant at $p \leq 0.05$, $p \leq 0.01$, $p \leq 0.001$ and not significant respectively.

² The titratable acidity is expressed as g/L tartaric acid.

³ S-N-K method (equal variances assumed) or Dunnett's T3 method (equal variances not assumed) was used to separate the means when there were significant differences among years; different letters (a, b, c) represent different means at $p \leq 0.05$.

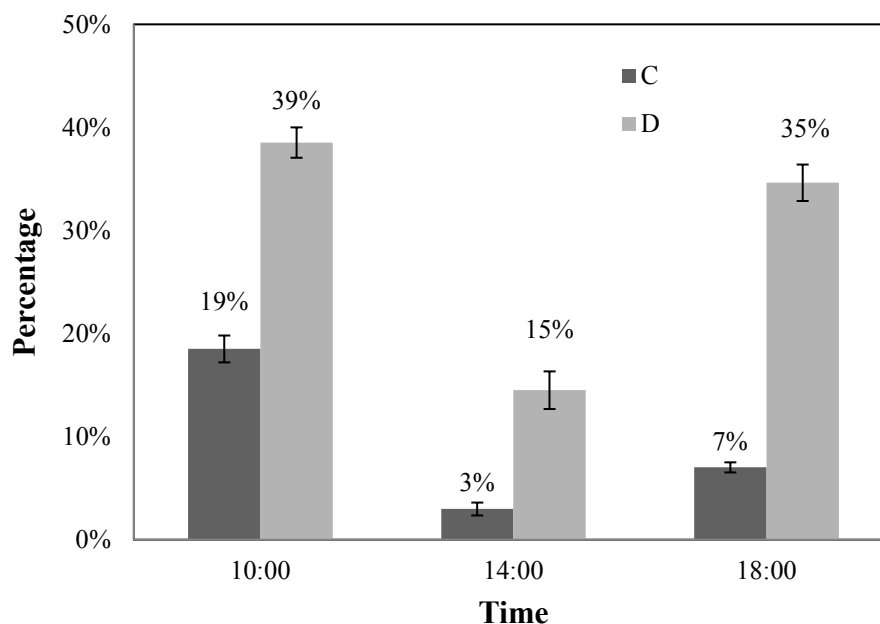


FIGURE 3

The percentage (the average of both sides of the cordon) of the sunlight radiation received by both the control (C) and leaf removal (LR) clusters with respect to the real-time maximum radiation of a representative summer day (2016-08-07) in the Rioja wine region. Values are means \pm SE.

