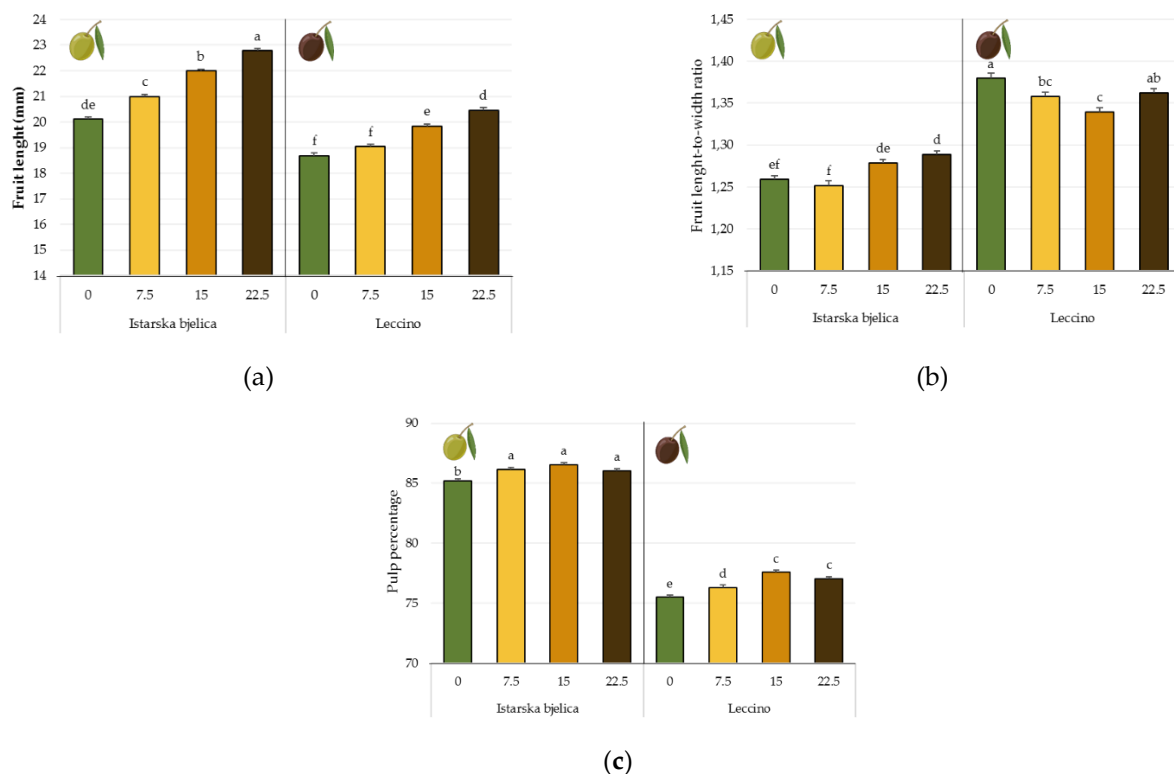


**Table S1.** Physicochemical properties of the soil.

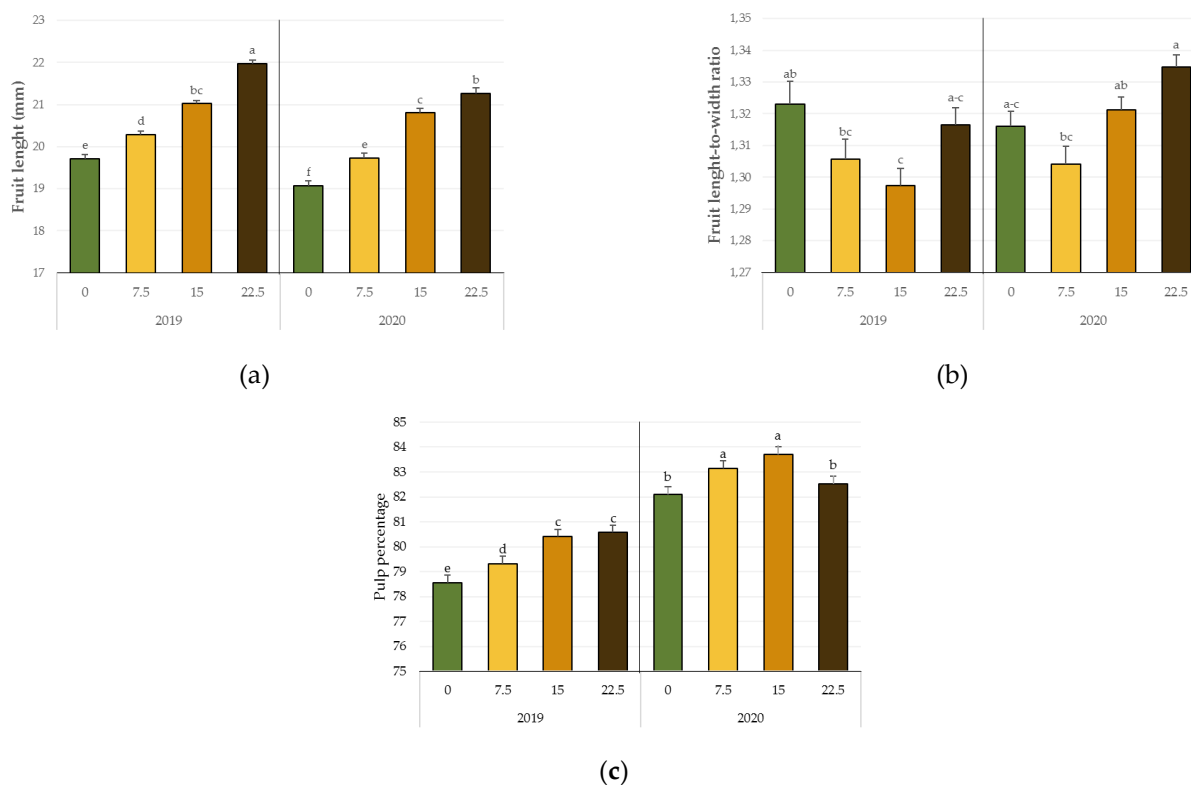
pH (H <sub>2</sub> O)	8.1
pH (KCl)	7.8
CaCO <sub>3</sub> (%)	14.0
CaO (%)	7.5
Organic matter (%)	2.6
Total N (%)	0.2
P (mg/100 g)	6.0
K (mg/100 g)	11.0

**Figure S1.** Fruits used as reference to determine the maturity index.**Table S2.** Mean maturity indexes during the harvesting in 2019 and 2020.

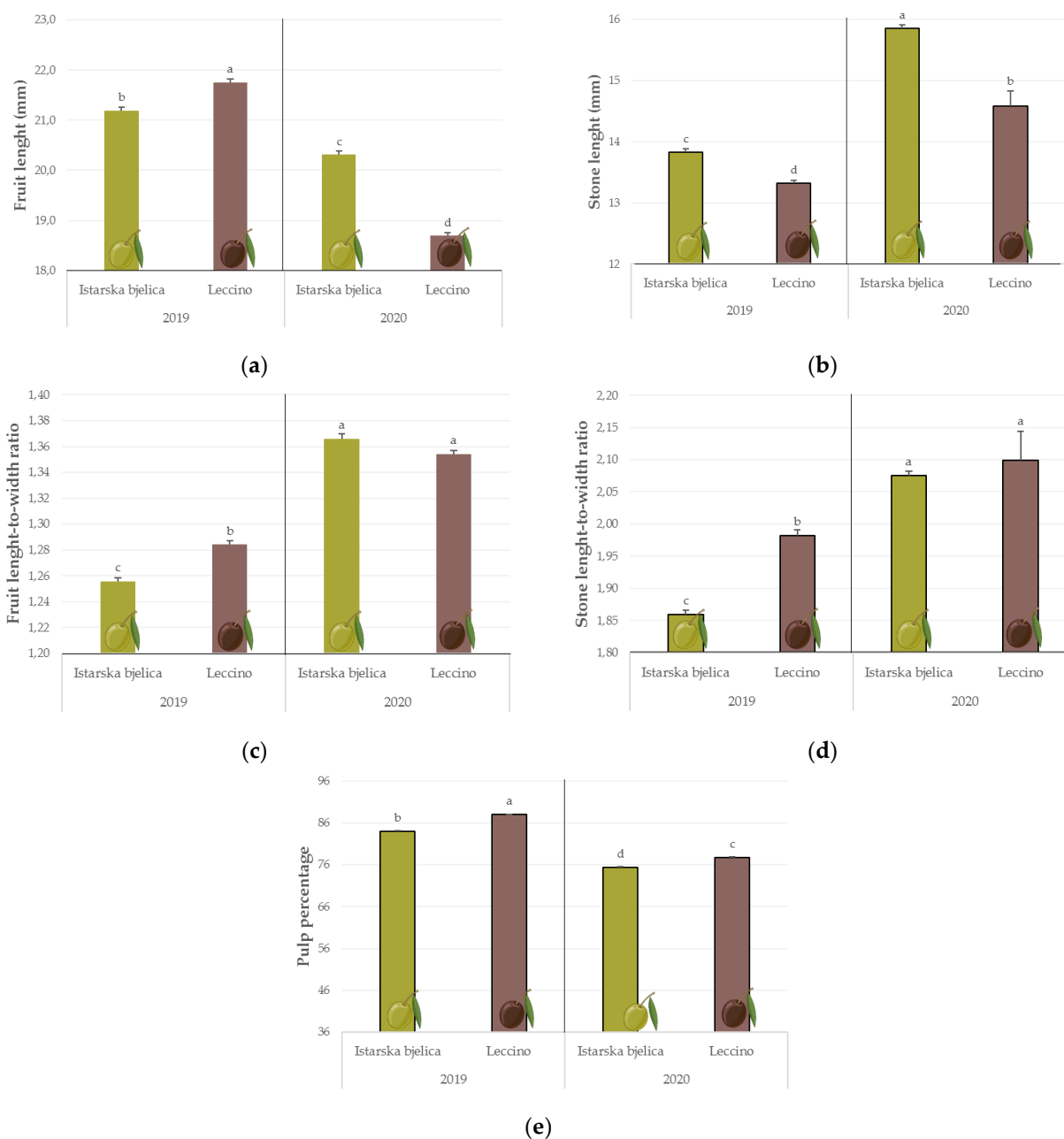
	2019		2020	
	Istarska bjelica	Leccino	Istarska bjelica	Leccino
0 mL SN	1.056	1.850	1.006	1.987
7.5 mL SN	1.351	2.256	1.313	2.262
15 mL SN	1.031	2.231	0.950	2.318
22.5 mL SN	0.975	2.137	1.031	2.275
Total:	1.103	2.118	1.075	2.210



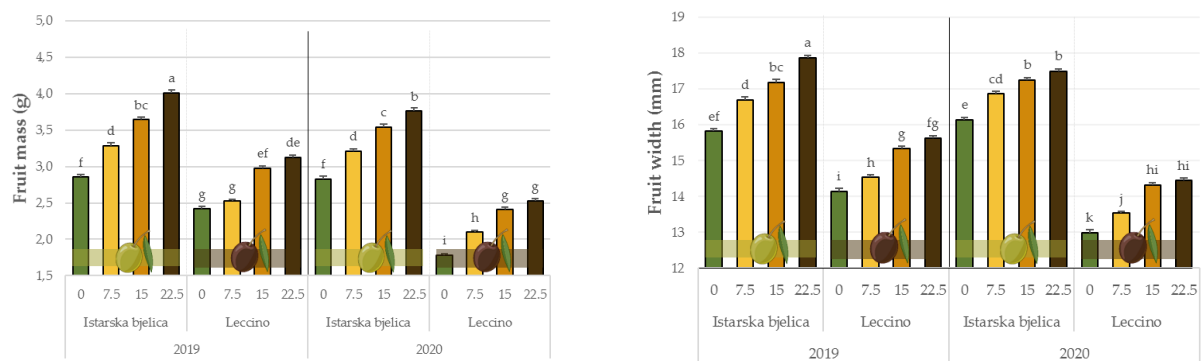
**Figure S2.** Multiple comparisons of the effects of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water) and cultivar (Cv.) (Istarska bjelica, Leccino) on olive fruit morphological parameters. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

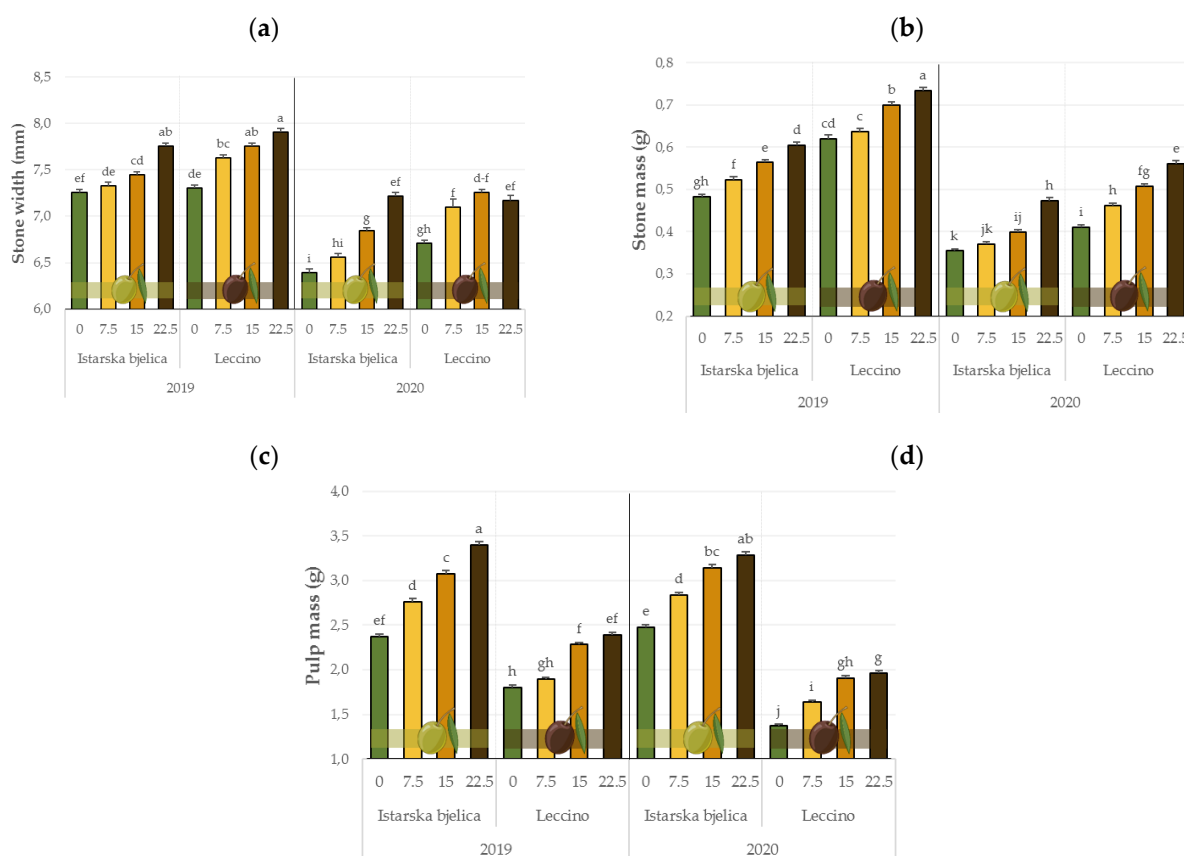


**Figure S3.** Multiple comparisons of the effects of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water) and year (Y) (2019, 2020) on olive fruit morphological parameters. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.



**Figure S4.** Multiple comparisons of the effects of cultivar (Cv.) (Istarska bjelica, Leccino) and year (Y) (2019, 2020) on olive fruit morphological parameters. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.





(e)

**Figure S5.** Multiple comparisons of the effects of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water), cultivar (Cv.) (Istarska bjelica, Leccino) and year (Y) (2019, 2020) on olive fruit morphological parameters. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

**Table S3.** The effect of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water), cultivar (Cv.) (Istarska bjelica, Leccino) and collection year (Y) (2019, 2020) on olive oil yield per tree.

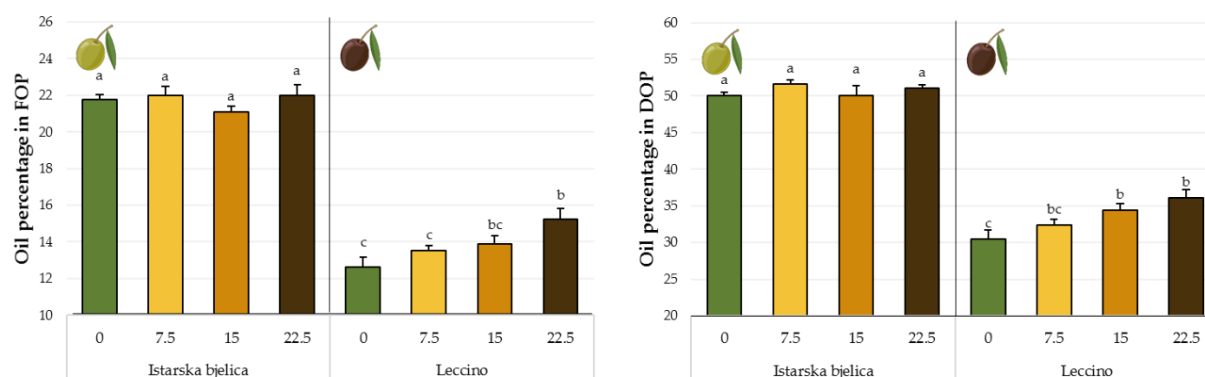
Source of variation	Olive oil yield per tree
<b>Treatment (T)</b>	
0 mL SN	1.21 ± 0.15 <sup>c</sup>
7.5 mL SN	1.76 ± 0.20 <sup>ab</sup>
15 mL SN	1.37 ± 0.15 <sup>bc</sup>
22.5 mL SN	2.01 ± 0.24 <sup>a</sup>
<i>p</i> -value	***
<b>Cultivar (Cv.)</b>	
Istarska bjelica	1.30 ± 0.15 <sup>b</sup>
Leccino	1.88 ± 0.18 <sup>a</sup>
<i>p</i> -value	***
<b>Year (Y)</b>	
2019	1.30 ± 0.13 <sup>b</sup>
2020	1.88 ± 0.14 <sup>a</sup>
<i>p</i> -value	***
<b>T × Cv.</b>	
0 mL SN × IB	1.13 ± 0.25 <sup>cd</sup>
7.5 mL SN × IB	1.08 ± 0.14 <sup>d</sup>
15 mL SN × IB	1.05 ± 0.18 <sup>d</sup>
22.5 mL SN × IB	1.96 ± 0.45 <sup>a-c</sup>
0 mL SN × L	1.30 ± 0.19 <sup>b-d</sup>
7.5 mL SN × L	2.44 ± 0.14 <sup>a</sup>
15 mL SN × L	1.71 ± 0.17 <sup>a-d</sup>
22.5 mL SN × L	2.05 ± 0.17 <sup>ab</sup>
<b>T × Y</b>	n.s.
<b>Cv. × Y</b>	n.s.
<b>T × Cv. × Y</b>	n.s.

Results are expressed as means ± standard errors (n = 4). Different superscript lowercase letters in a column represent statistically significant differences between mean values for each main effect at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test. First ( $T \times Cv.$ ,  $T \times Y$ ,  $Cv. \times Y$ ) and second order interactions ( $T \times Cv. \times Y$ ) are presented. Significance: \*\*\* —  $p < 0.001$ , \*\* —  $p < 0.01$ , \* —  $p < 0.05$ , n.s. — not significant. IB — 'Istarska bjelica', L — 'Leccino'.

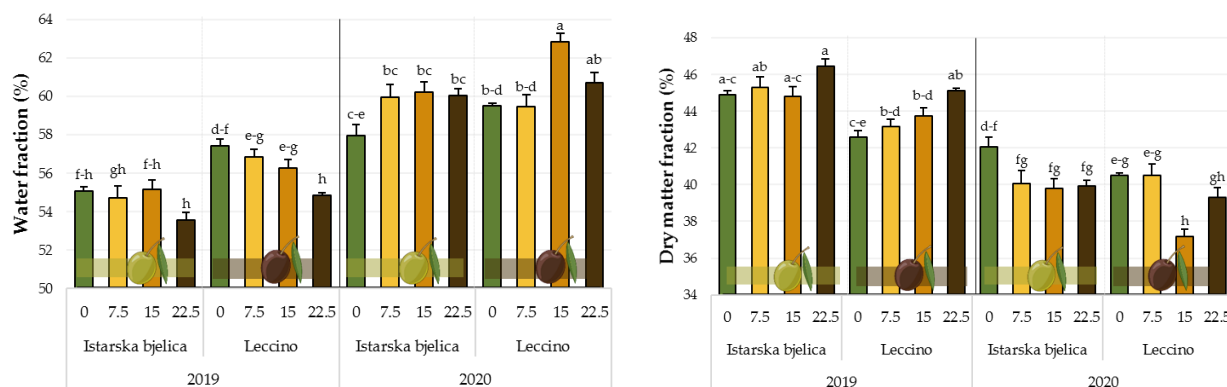
**Table S4.** The effect of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water), cultivar (Cv.) (Istarska bjelica, Leccino) and collection year (Y) (2019, 2020) on water and dry matter fractions in fresh olive paste (FOP), oil fraction in dry (DOP) olive paste and total phenolic content (TPC) in olive oil.

Source of variation	Water fraction in FOP (%)	Dry matter fraction in FOP (%)	Oil fraction in DOP (%)	TPC (mg/kg oil)
<b>Treatment (T)</b>				
0 mL SN	57.49 ± 0.44 <sup>b</sup>	42.51 ± 0.44 <sup>a</sup>	40.26 ± 2.61 <sup>b</sup>	825.81 ± 87.20
7.5 mL SN	57.75 ± 0.60 <sup>b</sup>	42.25 ± 0.60 <sup>a</sup>	42.00 ± 2.53 <sup>ab</sup>	800.56 ± 86.68
15 mL SN	58.62 ± 0.82 <sup>a</sup>	41.38 ± 0.82 <sup>b</sup>	42.24 ± 2.16 <sup>ab</sup>	793.05 ± 83.62
22.5 mL SN	57.30 ± 0.83 <sup>b</sup>	42.70 ± 0.83 <sup>a</sup>	43.58 ± 2.01 <sup>a</sup>	812.27 ± 84.49
<i>p</i> -value	***	***	**	n.s.
<b>Cultivar (Cv.)</b>				
Istarska bjelica	57.09 ± 0.49 <sup>b</sup>	42.91 ± 0.49 <sup>a</sup>	50.69 ± 0.40 <sup>a</sup>	1072.96 ± 34.56 <sup>a</sup>
Leccino	58.49 ± 0.46 <sup>a</sup>	41.51 ± 0.46 <sup>b</sup>	33.34 ± 0.62 <sup>b</sup>	499.95 ± 28.41 <sup>b</sup>
<i>p</i> -value	***	***	***	***
<b>Year (Y)</b>				
2019	55.49 ± 0.25 <sup>b</sup>	44.51 ± 0.25 <sup>a</sup>	41.06 ± 1.55 <sup>b</sup>	978.72 ± 53.70 <sup>a</sup>
2020	60.09 ± 0.28 <sup>a</sup>	39.92 ± 0.28 <sup>b</sup>	42.96 ± 1.71 <sup>a</sup>	620.92 ± 46.58 <sup>b</sup>
<i>p</i> -value	***	***	**	***
<b>T x Cv.</b>	n.s.	n.s.	*	n.s.
<b>T x Y</b>	***	***	n.s.	*
<b>Cv. x Y</b>	n.s.	n.s.	n.s.	**
<b>T x Cv. x Y</b>	*	*	n.s.	n.s.

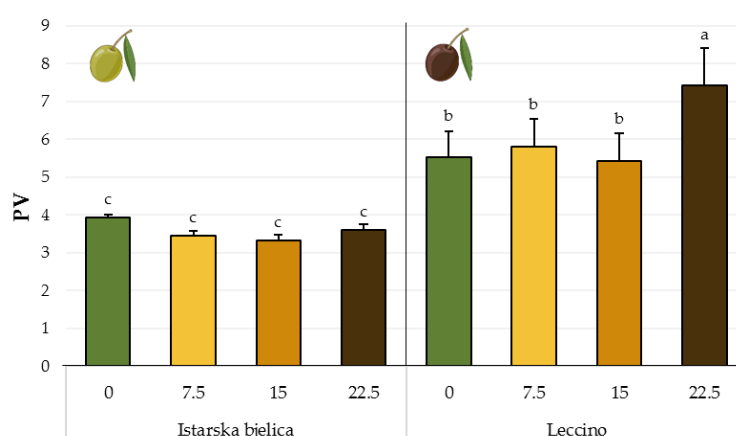
Results are expressed as means ± standard errors ( $n = 4$ ). Different superscript lowercase letters in a column represent statistically significant differences between mean values for each main effect at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test. First (T x Cv., T x Y, Cv. x Y) and second order interactions (T x Cv. x Y) are presented. Significance: \*\*\*— $p < 0.001$ , \*\*— $p < 0.01$ , \*— $p < 0.05$ .



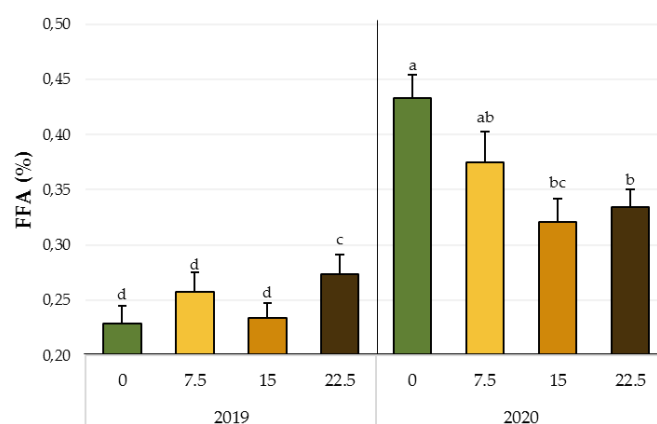
**Figure S6.** Multiple comparisons of the effects of treatment and cultivar on olive oil percentage. FOP- fresh olive paste, DOP – dry olive paste. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.



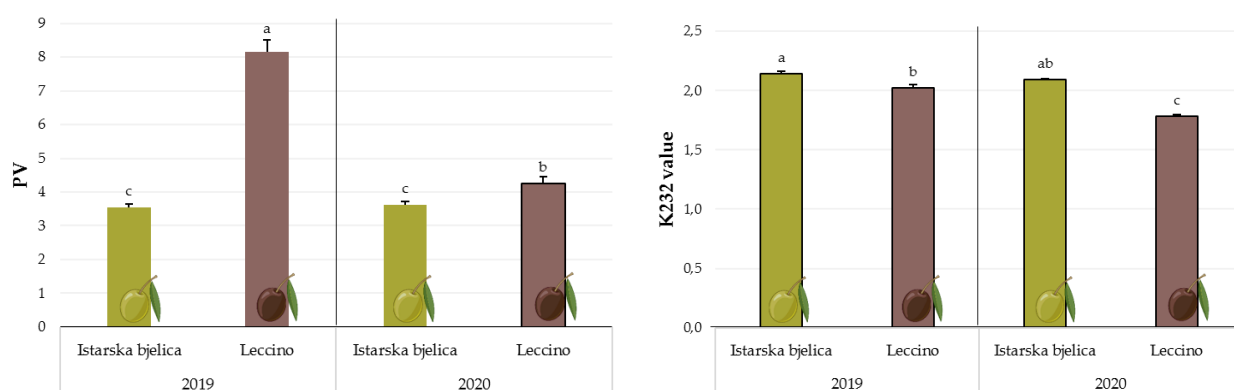
**Figure S7.** Multiple comparisons of the effects of treatment, cultivar and year on water and dry matter fractions in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.



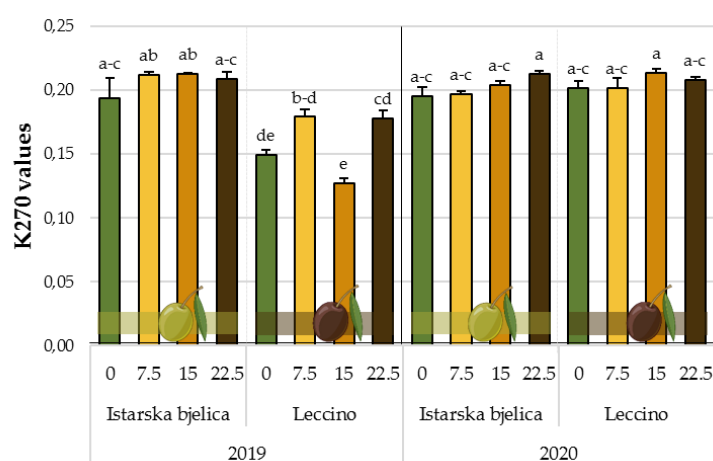
**Figure S8.** Multiple comparisons of the effects of treatment and cultivar on peroxide value (PV) of olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.



**Figure S9.** Multiple comparisons of the effects of treatment and year on free fatty acids (FFA) content in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

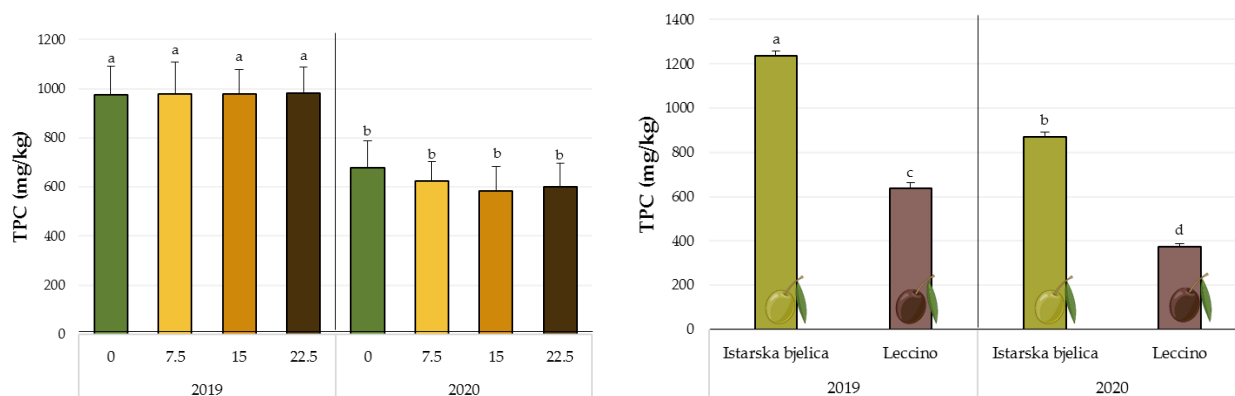


**Figure S10.** Multiple comparisons of the effects of cultivar and year on olive oil quality parameters. PV - peroxide value. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

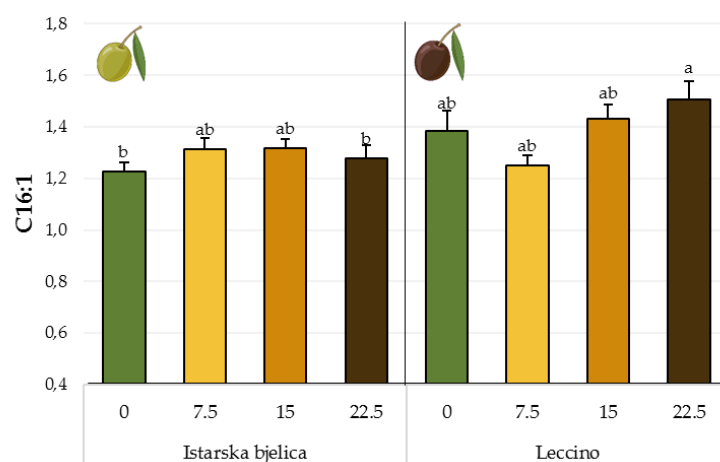


**Figure S11.** Multiple comparisons of the effects of treatment, cultivar and year on K<sub>270</sub> values in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

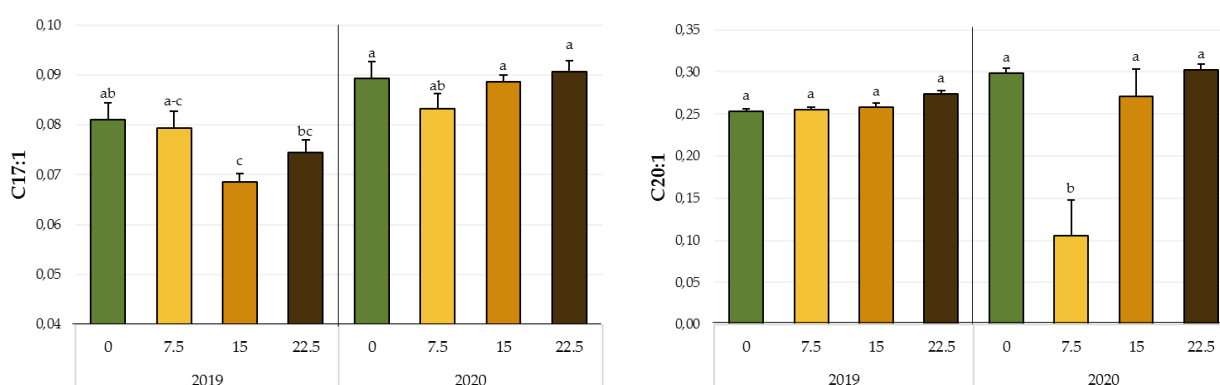




**Figure S12.** Multiple comparisons of the effects of: a) treatment and year on the total phenolic content (TPC), and b) cultivar and year on the TPC in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.



**Figure S13.** Multiple comparisons of the effects of treatment and cultivar on the concentration of C16:1 fatty acid in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test

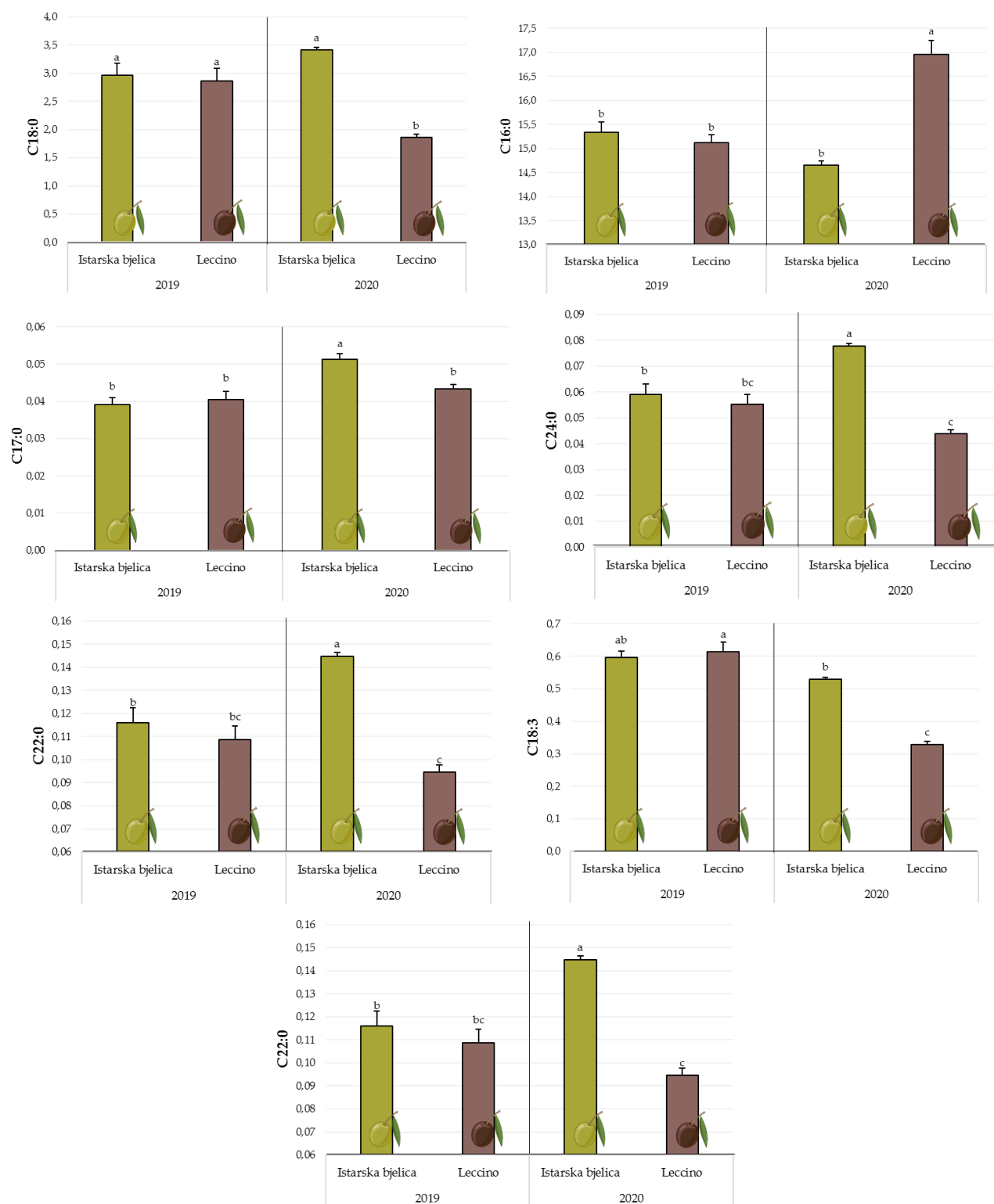


**Figure S14.** Multiple comparisons of the effects of treatment and year on the concentration of C17:1 and C20:1 fatty acids in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

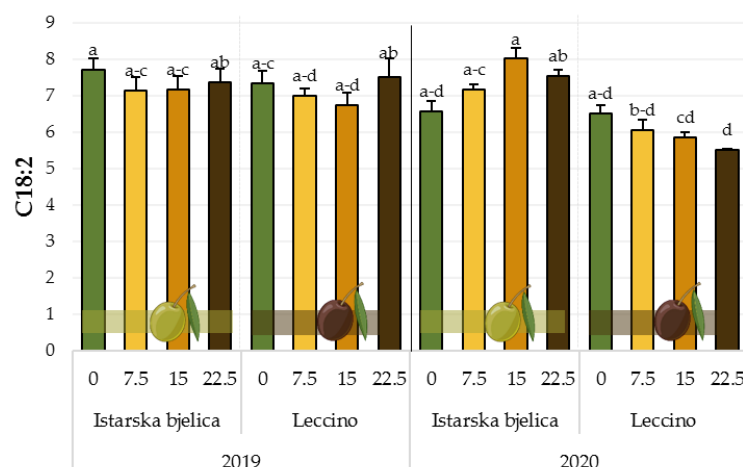
**Table S5.** The effect of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water), cultivar (Cv.) (Istarska bjelica, Leccino) and collection year (Y) (2019, 2020) on fatty acids profile in olive oil.

Source of variation	C14:0	C16:0	C16:1	C17:0	C17:1	C18:0	C18:1	C18:2	C20:0	C18:3	C20:1	C22:0	C22:1	C24:0
<b>Treatment (T)</b>														
0 mL SN	0.01 ± 0.00 <sup>a</sup>	15.12 ± 0.18	1.31 ± 0.05	0.04 ± 0.00	0.09 ± 0.00	3.03 ± 0.19	71.87 ± 0.19	7.03 ± 0.18	0.59± 0.05	0.53 ± 0.03	0.28 ± 0.00 <sup>a</sup>	0.13 ± 0.00 <sup>a</sup>	0.00 ± 0.00 <sup>bc</sup>	0.06 ± 0.00
7.5 mL SN	0.01±0.00 <sup>ab</sup>	15.58 ± 0.30	1.28 ± 0.03	0.04 ± 0.00	0.08 ± 0.00	2.74 ± 0.22	71.99 ± 0.19	6.84 ± 0.17	0.55± 0.05	0.53 ± 0.04	0.18 ± 0.03 <sup>b</sup>	0.11 ± 0.01 <sup>b</sup>	0.00 ± 0.00 <sup>c</sup>	0.06 ± 0.00
15 mL SN	0.01±0.00 <sup>ab</sup>	15.71 ± 0.32	1.37 ± 0.03	0.04 ± 0.00	0.08 ± 0.00	2.66 ± 0.22	71.67 ± 0.25	6.94 ± 0.24	0.57± 0.05	0.51 ± 0.03	0.26 ± 0.02 <sup>a</sup>	0.11 ± 0.01 <sup>b</sup>	0.00 ± 0.00 <sup>ab</sup>	0.06 ± 0.00
22.5 mL SN	0.01±0.00 <sup>b</sup>	15.68 ± 0.36	1.39 ± 0.05	0.04 ± 0.00	0.08 ± 0.00	2.68 ± 0.22	71.63 ± 0.25	6.98 ± 0.27	0.54± 0.04	0.49 ± 0.03	0.29 ± 0.01 <sup>a</sup>	0.11 ± 0.01 <sup>b</sup>	0.00 ± 0.00 <sup>a</sup>	0.06 ± 0.01
<i>p</i> -value	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	<b>n.s.</b>	n.s.	n.s.	***	*	***	n.s.
<b>Cultivar (Cv.)</b>														
Istarska bjelica	0.01 ± 0.00	15.00 ± 0.13 <sup>b</sup>	1.28 ± 0.02 <sup>b</sup>	0.05 ± 0.00	0.08 ± 0.00	3.19 ± 0.11 <sup>a</sup>	71.58 ± 0.14	7.34 ± 0.12 <sup>a</sup>	0.51 ± 0.02 <sup>b</sup>	0.56 ± 0.01 <sup>a</sup>	0.24 ± 0.01	0.13 ± 0.00 <sup>a</sup>	0.00 ± 0.00 <sup>b</sup>	0.07 ± 0.00 <sup>a</sup>
Leccino	0.01 ± 0.00	16.04 ± 0.23 <sup>a</sup>	1.39 ± 0.03 <sup>a</sup>	0.04 ± 0.00	0.08 ± 0.00	2.36 ± 0.15 <sup>b</sup>	72.00 ± 0.16	6.56 ± 0.15 <sup>b</sup>	0.62 ± 0.04 <sup>a</sup>	0.47 ± 0.03 <sup>b</sup>	0.26 ± 0.01	0.10 ± 0.00 <sup>b</sup>	0.00 ± 0.00 <sup>a</sup>	0.05 ± 0.00 <sup>b</sup>
<i>p</i> -value	n.s.	***	**	n.s.	n.s.	***	n.s.	***	***	***	***	***	*	***
<b>Year (Y)</b>														
2019	0.01 ± 0.00	15.24 ± 0.13 <sup>b</sup>	1.33 ± 0.03	0.04 ± 0.00 <sup>b</sup>	0.08 ± 0.00 <sup>b</sup>	2.92 ± 0.15	71.72 ± 0.15	7.24 ± 0.12 <sup>a</sup>	0.42 ± 0.02 <sup>b</sup>	0.61 ± 0.02 <sup>a</sup>	0.26 ± 0.00	0.11 ± 0.00	0.00 ± 0.00	0.06 ± 0.00
2020	0.01 ± 0.00	15.81 ± 0.26 <sup>a</sup>	1.34 ± 0.03	0.05 ± 0.00 <sup>a</sup>	0.09 ± 0.00 <sup>a</sup>	2.63 ± 0.14	71.85 ± 0.17	6.65 ± 0.16 <sup>b</sup>	0.7 ± 0.03 <sup>a</sup>	0.43 ± 0.02 <sup>b</sup>	0.24 ± 0.02	0.12 ± 0.00	0.00 ± 0.00	0.06 ± 0.00
<i>p</i> -value	n.s.	**	n.s.	***	***	n.s.	n.s.	***	***	***	n.s.	n.s.	n.s.	n.s.
<b>T x Cv.</b>	n.s.	n.s.	*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
<b>T x Y</b>	***	*	***	*	n.s.	*	**	n.s.	***	***	n.s.	***	***	***
<b>Cv. x Y</b>	n.s.	***	n.s.	*	n.s.	***	n.s.	***	***	***	n.s.	***	***	**
<b>T x Cv. x Y</b>	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	*	*	n.s.	n.s.	n.s.	n.s.	n.s.

Results are expressed as means ± standard errors ( $n = 4$ ). Different superscript lowercase letters in a column represent statistically significant differences between mean values for each main effect at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test. First (T x Cv., T x Y, Cv. x Y) and second order interactions (T x Cv. x Y) are presented. Significance: \*\*\*— $p < 0.001$ , \*\*— $p < 0.01$ , \*— $p < 0.05$ , n.s. – not significant.



**Figure S15.** Multiple comparisons of the effects of cultivar and year on the concentration of fatty acids in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

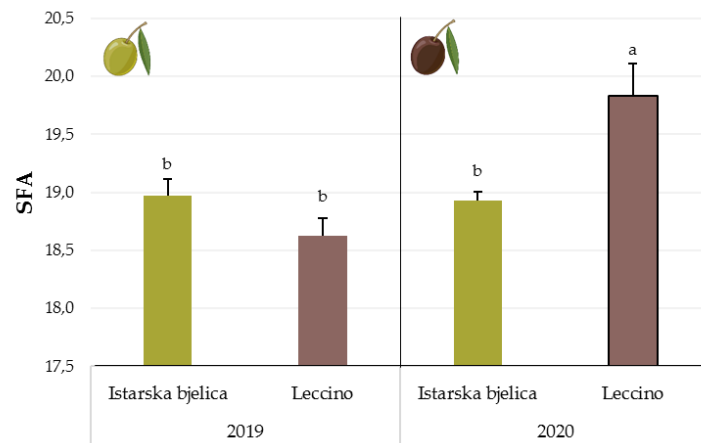


**Figure S16.** Multiple comparisons of the effects of treatment, cultivar and year on the concentration of C18:2 fatty acid in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.

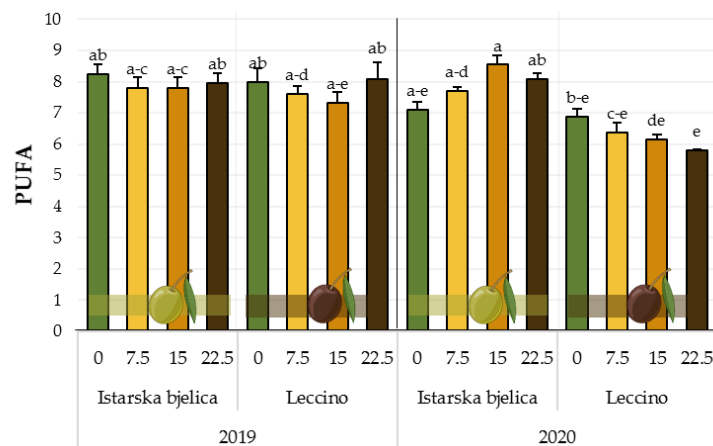
**Table S6.** The effect of treatment (T) (0, 7.5, 15, and 22.5 mL of applied SN foliar fertilizer per 1 L of water), cultivar (Cv.) (Istarska bjelica, Leccino) and collection year (Y) (2019, 2020) on percentage of saturated (SFA), monounsaturated (MUFA) and polyunsaturated (PUFA) fatty acids in olive oil.

Source of variation	SFA (%)	MUFA (%)	PUFA (%)
<b>Treatment (T)</b>			
0 mL SN	18.99 ± 0.14	73.54 ± 0.20	7.56 ± 0.21
7.5 mL SN	19.10 ± 0.26	73.53 ± 0.20	7.37 ± 0.19
15 mL SN	19.16 ± 0.20	73.39 ± 0.26	7.45 ± 0.26
22.5 mL SN	19.12 ± 0.22	73.40 ± 0.27	7.48 ± 0.29
<i>p</i> -value	n.s.	n.s.	n.s.
<b>Cultivar (Cv.)</b>			
Istarska bjelica	18.95 ± 0.08	73.19 ± 0.14 <sup>b</sup>	7.90 ± 0.11 <sup>a</sup>
Leccino	19.23 ± 0.19	73.74 ± 0.17 <sup>a</sup>	7.03 ± 0.18 <sup>b</sup>
<i>p</i> -value	n.s.	*	***
<b>Year (Y)</b>			
2019	18.80 ± 0.11 <sup>b</sup>	73.39 ± 0.15	7.85 ± 0.13 <sup>a</sup>
2020	19.38 ± 0.16 <sup>a</sup>	73.54 ± 0.17	7.08 ± 0.18 <sup>b</sup>
<i>p</i> -value	**	n.s.	***
<b>T x Cv.</b>	n.s.	n.s.	n.s.
<b>T x Y</b>	n.s.	n.s.	n.s.
<b>Cv. x Y</b>	**	n.s.	***
<b>T x Cv. x Y</b>	n.s.	n.s.	*

Results are expressed as means ± standard errors ( $n = 4$ ). Different superscript lowercase letters in a column represent statistically significant differences between mean values for each main effect at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test. First (T x Cv., T x Y, Cv. x Y) and second order interactions (T x Cv. x Y) are presented. Significance: \*\*\*— $p < 0.001$ , \*\*— $p < 0.01$ , \*— $p < 0.05$ , n.s. – not significant.



**Figure S17.** Multiple comparisons of the effects of cultivar and year on the concentration of saturated fatty acids (SFAs) in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.



**Figure S18.** Multiple comparisons of the effects of treatment, cultivar and year on the concentration of polyunsaturated fatty acids (PUFAs) in olive oil. Different superscript lowercase letters represent statistically significant differences between mean values at  $p < 0.05$  obtained by a three-way ANOVA and Tukey's test.