

**Combined effect of harvest time and postharvest dehydration length on the composition of withered grapes
for Sforzato di Valtellina DOCG wine production**

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Supporting information

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Table S1. Harvest times and total days of withering for each vineyard studied (A-B) and correspondent binomials: early harvest/long withering (EL), medium-term harvest/medium withering (MM), and late harvest/short withering (LS).

| Binomial | Vineyard | Harvest time | | | Total days of withering | | |
|----------|----------|--------------|--------|--------|-------------------------|------|------|
| | | 2019 | 2020 | 2021 | 2019 | 2020 | 2021 |
| EL | A | 30-Sep | 19-Sep | 22-Sep | 62 | 73 | 70 |
| | B | 25-Sep | 19-Sep | 28-Sep | 67 | 73 | 64 |
| MM | A | 11-Oct | 29-Sep | 10-Oct | 51 | 63 | 52 |
| | B | 8-Oct | 1-Oct | 1-Oct | 54 | 61 | 61 |
| LS | A | 19-Oct | 8-Oct | 18-Oct | 43 | 54 | 44 |
| | B | 13-Oct | 10-Oct | 16-Oct | 49 | 52 | 46 |

Table S2. Ratios calculated based on compositional parameters: SIR-to-WLR ratio, juice sugars-to-acids ratio, malic-to-tartaric acid ratio, anthocyanins-to-sugars ratio, tannins (Skins MTC)-to-sugars ratio.

| Year | Vineyard | Binomial | SIR-to-WLR † | Sugars-to-Total acidity ‡ | | Malic-to-Tartaric acid ‡ | | Anthocyanins-to-Sugars § | | Anthocyanins-to-Tannins # | |
|--------------------------------------------------------------------|----------|----------|--------------|---------------------------|----------------------|--------------------------|---------------------|--------------------------|-----------|---------------------------|--------------------|
| | | | - | Fresh | Withered | Fresh | Withered | Fresh | Withered | Fresh | Withered |
| 2019 | A | EL | 0.33 | 22.58 | 30.72 | 0.46 | 0.53 | 1.20 | 1.16 | 0.51 | 0.47 |
| 2019 | A | MM | 0.26 | 29.63 | 37.41 | 0.38 | 0.45 | 1.07 | 0.99 | 0.50 | 0.42 |
| 2019 | A | LS | 0.14 | 31.37 | 34.30 | 0.56 | 0.54 | 1.05 | 1.10 | 0.51 | 0.49 |
| 2019 | B | EL | 0.23 | 23.81 | 32.01 | 0.44 | 0.58 | 1.37 | 0.93 | 0.45 | 0.36 |
| 2019 | B | MM | 0.20 | 26.06 | 31.15 | 0.43 | 0.43 | 1.29 | 1.04 | 0.48 | 0.36 |
| 2019 | B | LS | 0.20 | 26.81 | 34.42 | 0.40 | 0.43 | 1.26 | 1.04 | 0.44 | 0.43 |
| 2020 | A | EL | 0.27 | 24.69 | 32.99 | 0.35 | 0.42 | 1.44 | 1.13 | 0.52 | 0.46 |
| 2020 | A | MM | 0.20 | 29.90 | 39.71 | 0.33 | 0.46 | 1.56 | 1.59 | 0.62 | 0.67 |
| 2020 | A | LS | 0.45 | 34.78 | 45.64 | 0.21 | 0.41 | 1.32 | 1.14 | 0.51 | 0.51 |
| 2020 | B | EL | 0.44 | 29.31 | 36.86 | 0.23 | 0.33 | 1.11 | 0.81 | 0.40 | 0.31 |
| 2020 | B | MM | 0.31 | 29.61 | 36.51 | 0.23 | 0.34 | 1.23 | 1.08 | 0.46 | 0.46 |
| 2020 | B | LS | 0.39 | 32.28 | 38.04 | 0.22 | 0.34 | 1.37 | 1.15 | 0.56 | 0.44 |
| 2021 | A | EL | 0.21 | 20.91 | 24.42 | 0.57 | 0.63 | 1.46 | 0.95 | 0.51 | 0.35 |
| 2021 | A | MM | 0.18 | 24.88 | 27.27 | 0.51 | 0.54 | 1.44 | 1.21 | 0.57 | 0.48 |
| 2021 | A | LS | 0.09 | 27.68 | 25.96 | 0.46 | 0.64 | 1.39 | 1.20 | 0.51 | 0.42 |
| 2021 | B | EL | 0.20 | 21.30 | 27.80 | 0.47 | 0.56 | 1.44 | 1.24 | 0.54 | 0.40 |
| 2021 | B | MM | 0.35 | 25.91 | 32.83 | 0.40 | 0.45 | 1.45 | 1.14 | 0.51 | 0.40 |
| 2021 | B | LS | 0.19 | 27.00 | 30.11 | 0.38 | 0.40 | 1.32 | 1.20 | 0.52 | 0.42 |
| <i>Average±standard deviation data by year, vineyard, binomial</i> | | | | | | | | | | | |
| 2019 | | | 0.23±0.06 | 26.71±3.35 | 33.34±2.53 ab | 0.45±0.06 a | 0.49±0.07 ab | 1.21±0.13 b | 1.04±0.08 | 0.48±0.03 | 0.42±0.05 |
| 2020 | | | 0.34±0.10 | 30.10±3.37 | 38.29±4.23 a | 0.26±0.06 b | 0.38±0.05 b | 1.34±0.16 ab | 1.15±0.25 | 0.51±0.08 | 0.48±0.12 |
| 2021 | | | 0.20±0.08 | 24.61±2.88 | 28.06±3.01 b | 0.47±0.07 a | 0.54±0.10 a | 1.42±0.05 a | 1.16±0.11 | 0.52±0.02 | 0.41±0.04 |
| | A | | 0.24±0.11 | 27.38±4.48 | 33.16±6.96 | 0.42±0.12 | 0.51±0.08 | 1.33±0.18 | 1.16±0.18 | 0.53±0.04 | 0.48±0.09 a |
| | B | | 0.28±0.10 | 26.90±3.26 | 33.30±3.42 | 0.36±0.10 | 0.43±0.09 | 1.32±0.11 | 1.07±0.14 | 0.48±0.05 | 0.40±0.05 b |
| | | EL | 0.28±0.09 | 23.77±3.07 b | 30.80±4.31 | 0.42±0.12 | 0.51±0.11 | 1.34±0.15 | 1.04±0.17 | 0.49±0.05 | 0.39±0.06 |
| | | MM | 0.25±0.07 | 27.66±2.29 ab | 34.15±4.59 | 0.38±0.09 | 0.44±0.06 | 1.34±0.18 | 1.18±0.22 | 0.52±0.06 | 0.47±0.11 |
| | | LS | 0.24±0.15 | 29.99±3.30 a | 34.75±6.76 | 0.37±0.14 | 0.46±0.11 | 1.28±0.12 | 1.14±0.06 | 0.51±0.04 | 0.45±0.04 |

All ratios are calculated from Tables 1, 2 and Figure 4 averaged data, except for SIR-to-WLR (Mencarelli and Bellincontro, 2013; <https://doi.org/10.1002/9781118569184.ch3>). SIR = rate of sugar increase (total soluble solids in °Brix/day); WLR = weight loss rate (%/day). † °Brix/%. ‡ g/g. § mg/g. # mg/mg; only tannins extracted from skins (Skins MCP) were considered. For each factor (year, vineyard, binomial) and parameter, different letters among rows indicate significant differences (Tukey HSD post-hoc; $p < 0.05$).