

Supplementary Material

SUPPLEMENTARY TABLE S1. Concentration of phenolic glycosides and volatile phenols ($\mu\text{g/L}$) of Shiraz, Pinot Noir rosé and Chardonnay wines.

| Variety | Wine Code | SyGG | MSyGG | PhRG | GuRG | CrRG | MGuRG | MGu | Gu | o- cresol | p-cresol | m- cresol | Sy | MSy |
|-----------------|-----------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-----|
| Shiraz | SHZ A | 5.5 | LoQ | LoQ | 9.4 | 2.6 | 3.4 | LoQ | 11.0 | LoQ | LoQ | LoQ | 7.0 | LoQ |
| | SHZ B | 5.5 | 1.3 | 1.7 | 12.8 | 3.7 | 6.3 | LoQ | 17.0 | LoQ | LoQ | LoQ | 11.0 | LoQ |
| | SHZ C | 60.9 | 7.1 | 8.3 | 52.5 | 16.5 | 54.6 | 9.0 | 61.0 | 8.0 | 4.0 | 6.0 | 9.0 | LoQ |
| | SHZ D | 12.6 | 1.6 | 2.7 | 18.8 | 5.9 | 11.2 | 2.0 | 24.0 | 3.0 | LoQ | 2.0 | 9.0 | LoQ |
| | SHZ F | 32.3 | 3.1 | 3.3 | 33.3 | 8.0 | 24.2 | 5.0 | 37.0 | 5.0 | 2.0 | 3.0 | 11.0 | LoQ |
| | SHZ G | 70.0 | 6.6 | 4.3 | 42.0 | 7.9 | 51.8 | 15.0 | 67.0 | 8.0 | 4.0 | 6.0 | 11.0 | LoQ |
| | SHZ I | 52.1 | 6.4 | 9.2 | 69.5 | 21.1 | 61.7 | 8.0 | 84.0 | 8.0 | 4.0 | 7.0 | 12.0 | 3.0 |
| | SHZ K | 41.0 | 4.0 | 7.9 | 61.0 | 13.0 | 49.7 | 7.0 | 54.0 | 7.0 | 4.0 | 5.0 | 10.0 | LoQ |
| Pinot noir Rosé | PNR 0% | LoQ | LoQ | LoQ | LoQ | 1.3 | LoQ | LoQ | LoQ | LoQ | LoQ | LoQ | LoQ | LoQ |
| | PNR 6.25% | 5.9 [†] | LoQ | 1.5 [†] | 2.1 [†] | 2.8 [†] | 2.9 [†] | LoQ | 1.8 [†] | LoQ | LoQ | LoQ | LoQ | LoQ |
| | PNR 12.5% | 11.3 [†] | 1.0 [†] | 2.4 [†] | 3.7 [†] | 4.3 [†] | 5.3 [†] | LoQ | 3.2 [†] | 1.4 [†] | 1.6 [†] | 1.4 [†] | LoQ | LoQ |
| | PNR 25% | 22.2 [†] | 1.4 [†] | 4.3 [†] | 6.9 [†] | 7.2 [†] | 10.1 [†] | 1.4 [†] | 5.9 [†] | 2.3 [†] | 2.6 [†] | 2.3 [†] | LoQ | LoQ |
| | PNR 50% | 54.7 [†] | 2.8 [†] | 10.1 [†] | 16.5 [†] | 16.1 [†] | 24.6 [†] | 2.7 [†] | 14.0 [†] | 4.9 [†] | 5.8 [†] | 4.9 [†] | 3.7 [†] | LoQ |
| | PNR 100% | 87.2 | 4.2 | 15.8 | 26.1 | 24.9 | 39.1 | 4.0 | 22.0 | 7.5 | 9.0 | 7.5 | 5.5 | LoQ |
| Chardonnay | CHA 0% | 18.9 | 2.3 | 2.6 | 3.1 | 5.5 | 6.3 | LoQ | LoQ | LoQ | LoQ | LoQ | LoQ | LoQ |
| | CHA 6.25% | 67.1 [†] | 6.7 [†] | 2.4 [†] | 3.2 [†] | 5.4 [†] | 7.3 [†] | LoQ | 2.0 [†] | 2.0 [†] | LoQ | 2.0 [†] | LoQ | LoQ |
| | CHA 12.5% | 115.3 | 11.1 | 2.2 | 3.4 | 5.4 | 8.2 | LoQ | 2.0 | 2.0 | LoQ | 2.0 | 3.0 | LoQ |
| | CHA 25% | 197.9 | 18.8 | 2.3 | 3.9 | 4.4 | 10.2 | 2.0 | 3.0 | 3.0 | LoQ | 3.0 | 6.0 | LoQ |
| | CHA 50% | 418.6 | 40.1 | 2.6 | 6.1 | 4.4 | 15.7 | 3.0 | 7.0 | 6.0 | 2.0 | 6.0 | 11.0 | 4.0 |
| | CHA 100% | 735.9 | 72.4 | 2.5 | 9.2 | 3.5 | 22.6 | 6.0 | 13.0 | 11.0 | 5.0 | 12.0 | 22.0 | 9.0 |

All phenolic glycoside values are expressed as syringol gentiobioside equivalents. Values in wine codes indicate percentage of smoke affected wine in the blends, details of Shiraz wines were reported by Jiang *et al.*, 2022. SHZ, Shiraz; PNR, Pinot Noir Rosé; CHA, Chardonnay; Ph, phenol; Gu, guaiacol; Cr, cresol; Sy, syringol; MGu, 4-methylguaiacol; MSy, 4-methylsyringol; GG, gentiobiosides; RG, rutinoside; LoQ, limit of quantitation = (1 $\mu\text{g/L}$ apart from syringol and 4-methylsyringol which are 2 $\mu\text{g/L}$)
[†]: Theoretical concentration calculated with blending ratios of the clean and smoke affected wines.

SUPPLEMENTARY DATA

Bilogrevic, E., Jiang, W., Culbert, J., Francis, L., Herderich, M., & Parker, M. (2023).

Consumer response to wine made from smoke-affected grapes. *OENO One*, 57(2).<https://doi.org/10.20870/oeno-one.2023.57.2.7261>**SUPPLEMENTARY TABLE S2.** All wines - Basic wine composition.

| Variety | Wine | Alc %v.v | G&F g/L | pH | TA 8.2 g/L | Malic g/L | VA g/L |
|-----------------|-----------|----------|---------|------|------------|-----------|--------|
| Shiraz | SHZ A | 13.9 | 0.3 | 3.59 | 6.4 | < 0.05 | 0.51 |
| | SHZ B | 16.3 | 0.4 | 3.69 | 6.3 | 0.24 | 0.38 |
| | SHZ C | 13.9 | < 0.3 | 3.64 | 6.5 | 0.06 | 0.52 |
| | SHZ D | 14.0 | 0.4 | 3.60 | 6.5 | 0.05 | 0.52 |
| | SHZ F | 12.2 | 0.4 | 3.60 | 6.1 | 0.05 | 0.41 |
| | SHZ G | 13.2 | < 0.3 | 3.60 | 6.8 | < 0.05 | 0.48 |
| | SHZ I | 16.5 | 0.3 | 3.56 | 6.5 | 0.06 | 0.31 |
| | SHZ K | 14.4 | 0.4 | 3.51 | 6.7 | 0.05 | 0.50 |
| Pinot noir Rosé | PNR100 % | 14.1 | 1.3 | 3.58 | 6.5 | 2.42 | 0.40 |
| | PNR 0 % | 11.6 | 3.9 | 3.34 | 5.9 | 1.22 | 0.33 |
| Chardonnay | CHA 100 % | 15.5 | 2.6 | 3.70 | 6.8 | 3.30 | 0.35 |
| | CHA 0 % | 15.2 | 0.4 | 3.34 | 6.0 | 2.10 | 0.28 |

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SUPPLEMENTARY TABLE 3. Mean scores for the QDA sensory attributes of the Shiraz wines.

| Wine | Opacity | Purple | Dark Fruit Ar | Blackcurrant Ar | Red Fruit Ar | Eucalypt Ar | Smoke Ar | Earthy Ar | Spices Ar | Jammy Ar | Vinegar Ar | Eggy/ Drain Ar | Pungency |
|-------|---------|--------|---------------|-----------------|--------------|-------------|----------|-----------|-----------|----------|------------|----------------|----------|
| SHZ A | 5.07 | 5.48 | 4.03 | 0.95 | 2.82 | 1.54 | 1.35 | 2.56 | 2.32 | 1.83 | 1.71 | 1.81 | 5.11 |
| SHZ B | 7.47 | 6.11 | 4.18 | 1.02 | 2.43 | 1.70 | 1.63 | 2.46 | 2.63 | 2.53 | 1.74 | 1.14 | 5.59 |
| SHZ C | 4.24 | 4.14 | 3.47 | 0.67 | 2.06 | 1.65 | 4.59 | 2.63 | 2.06 | 1.93 | 1.36 | 1.93 | 5.09 |
| SHZ D | 6.22 | 5.85 | 3.97 | 0.65 | 2.48 | 1.41 | 1.70 | 2.59 | 2.38 | 1.98 | 1.61 | 1.58 | 4.98 |
| SHZ F | 5.51 | 5.55 | 3.24 | 0.97 | 1.96 | 1.14 | 3.05 | 2.43 | 1.56 | 1.73 | 2.17 | 3.21 | 4.90 |
| SHZ G | 3.60 | 4.35 | 3.14 | 0.65 | 2.57 | 2.13 | 5.07 | 2.60 | 2.17 | 1.65 | 1.14 | 1.40 | 5.01 |
| SHZ I | 6.68 | 4.56 | 3.28 | 2.87 | 1.84 | 4.90 | 2.72 | 2.42 | 2.64 | 2.03 | 1.14 | 0.50 | 5.35 |
| SHZ K | 5.38 | 5.02 | 3.60 | 0.97 | 1.85 | 1.49 | 2.42 | 2.22 | 2.02 | 2.02 | 1.20 | 2.16 | 5.39 |
| LSD | 0.44 | 0.70 | 0.60 | 0.96 | ns | 0.90 | 1.28 | ns | 0.50 | ns | ns | 0.97 | ns |

Ar: aroma, LSD ($P = 0.05$) values included for the significant attributes ($P < 0.05$), ns: not significantly different.

| Wine | Acidity | Astringency | Hotness | Bitterness | Viscosity | Overall Fruit Fl | Earthy Fl | Smoke Fl |
|-------|---------|-------------|---------|------------|-----------|------------------|-----------|----------|
| SHZ A | 4.85 | 4.65 | 4.93 | 3.56 | 3.47 | 3.42 | 2.52 | 1.92 |
| SHZ B | 4.85 | 5.19 | 5.83 | 3.70 | 3.56 | 3.69 | 2.35 | 1.70 |
| SHZ C | 4.84 | 4.59 | 5.34 | 4.02 | 3.42 | 3.17 | 2.47 | 4.85 |
| SHZ D | 4.87 | 5.18 | 4.90 | 3.79 | 3.71 | 3.29 | 2.88 | 2.36 |
| SHZ F | 4.78 | 4.11 | 4.39 | 3.75 | 3.44 | 2.66 | 2.59 | 3.73 |
| SHZ G | 4.90 | 4.44 | 4.98 | 3.97 | 3.05 | 2.74 | 2.53 | 5.63 |
| SHZ I | 4.99 | 5.22 | 5.94 | 3.73 | 3.51 | 3.66 | 2.72 | 4.49 |
| SHZ K | 5.21 | 4.87 | 5.43 | 3.82 | 3.32 | 3.11 | 2.40 | 3.42 |
| LSD | ns | 0.38 | 0.53 | ns | 0.36 | 0.50 | ns | 1.22 |

Fl: Flavour, LSD ($P=0.05$) values included for the significant attributes ($P < 0.05$).

SUPPLEMENTARY DATA

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SUPPLEMENTARY TABLE 4. F-ratios, probability values[†], degrees of freedom (df) and mean square error (MSE) from the analysis of variance of the Shiraz QDA wines.

| Attribute | Wine | PreRep | J*W | J*PreRep | W*PreRep | MSE |
|-----------------|----------|--------|---------|----------|----------|-------|
| Opacity | 64.97*** | 0.65 | 1.54* | 1.60‡ | 2.16* | 0.574 |
| Purple | 8.59*** | 0.85 | 5.09*** | 4.06*** | 1.09 | 0.436 |
| Dark Fruit A | 3.53** | 0.85 | 1.60** | 1.56‡ | 1.11 | 1.013 |
| Blackcurrant A | 4.64*** | 1.23 | 2.94*** | 1.01 | 0.83 | 1.426 |
| Red Fruit A | 2.09‡ | 1.36 | 1.59** | 0.89 | 1.04 | 1.489 |
| Eucalypt A | 14.17*** | 1.35 | 2.23*** | 1.37 | 1.71‡ | 1.657 |
| Smoke A | 9.12*** | 0.51 | 2.96*** | 1.31 | 1.83* | 2.527 |
| Earthy A | 0.41 | 1.66 | 1.95*** | 2.25** | 0.90 | 0.827 |
| Spices A | 3.98** | 1.06 | 1.00 | 1.38 | 0.87 | 1.128 |
| Jammy A | 1.13 | 0.50 | 1.26 | 1.65* | 1.03 | 1.790 |
| Vinegar A | 2.00‡ | 1.24 | 1.41* | 0.59 | 1.35 | 1.696 |
| Eggy/Drain A | 5.36*** | 2.33 | 1.41* | 0.76 | 0.69 | 3.005 |
| Pungency | 1.97‡ | 0.20 | 1.70** | 0.76 | 0.91 | 0.625 |
| Acidity | 0.71 | 1.99 | 1.76** | 1.05 | 0.57 | 0.520 |
| Astringency | 9.03*** | 0.82 | 1.29‡ | 1.23 | 1.14 | 0.510 |
| Hotness | 7.67*** | 0.36 | 1.52* | 1.11 | 0.97 | 0.827 |
| Bitterness | 1.51 | 1.04 | 0.62 | 0.84 | 0.45 | 0.845 |
| Viscosity | 2.24* | 0.48 | 1.14 | 1.49‡ | 1.18 | 0.522 |
| Overall Fruit F | 4.62*** | 1.19 | 1.29‡ | 1.19 | 0.77 | 0.877 |
| Earthy F | 0.86 | 0.11 | 1.55* | 0.95 | 0.62 | 0.808 |
| Smoke F | 10.95*** | 8.68** | 2.18*** | 0.74 | 0.91 | 3.117 |
| <i>df</i> | 7 | 2 | 77 | 22 | 14 | 154 |

A: aroma, F: Flavour. [†]Significance levels are as follows: * $P \leq 0.05$; ** $P \leq 0.01$; *** $P \leq 0.001$; ‡ $P \leq 0.10$. J = Judge, W = Wine, PreRep = Presentation replicate. The judge effect was significantly different for all attributes.

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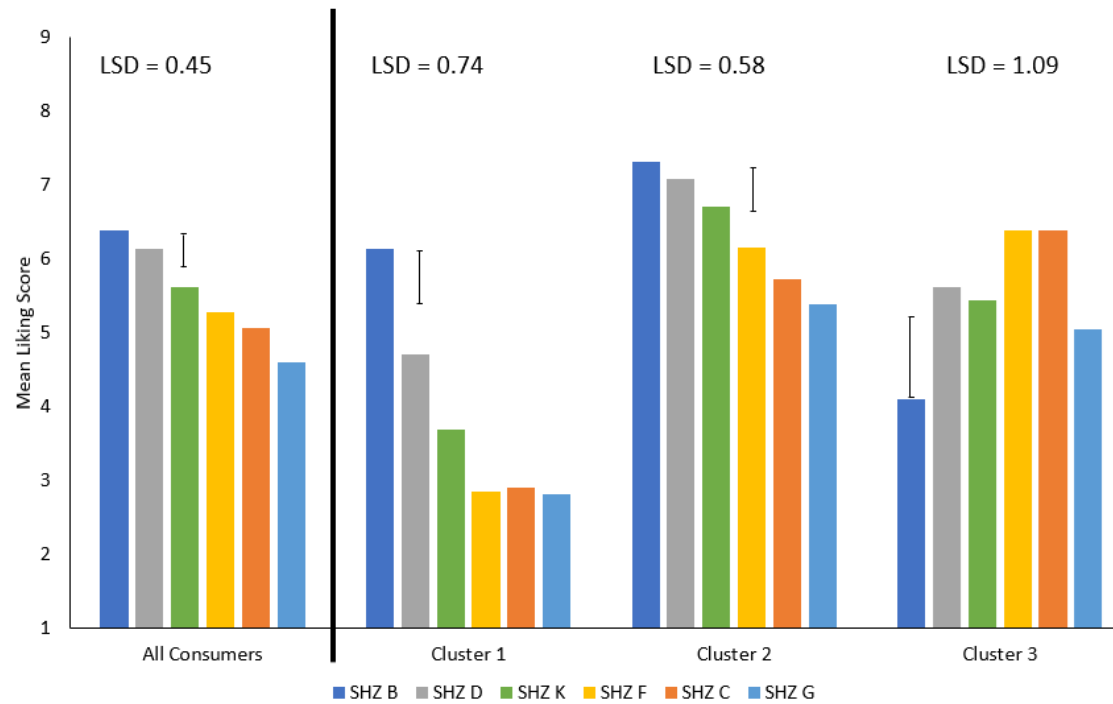
SUPPLEMENTARY TABLE 5. Attribute mean scores from the smoke rating panel assessments for each of the Shiraz, Pinot noir rosé and Chardonnay wines.

| Variety | Wine Code | Overall Fruit Aroma | Smoke Aroma | Overall Fruit Flavour | Smoke Flavour |
|-----------------|--------------|---------------------|-------------|-----------------------|---------------|
| Shiraz | SHZ A | 4.66 | 0.78 | 4.64 | 0.74 |
| | SHZ B | 5.46 | 0.20 | 5.43 | 0.39 |
| | SHZ C | 3.76 | 4.13 | 3.94 | 5.04 |
| | SHZ D | 5.08 | 0.98 | 5.14 | 1.42 |
| | SHZ F | 3.57 | 2.80 | 3.67 | 3.34 |
| | SHZ G | 3.86 | 4.38 | 3.74 | 5.30 |
| | SHZ I | 5.30 | 1.29 | 5.59 | 2.04 |
| | SHZ K | 4.29 | 1.79 | 4.49 | 2.92 |
| | <i>LSD</i> † | 0.66 | 1.16 | 0.59 | 1.21 |
| Pinot noir Rosé | PNR 0% | 4.17 | 0.95 | 4.02 | 0.86 |
| | PNR 6.25% | 4.31 | 0.53 | 4.15 | 0.73 |
| | PNR 12.5% | 3.66 | 1.24 | 3.97 | 1.43 |
| | PNR 25% | 3.63 | 2.38 | 3.38 | 2.30 |
| | PNR 50% | 2.65 | 4.47 | 2.41 | 4.88 |
| | PNR 100% | 2.16 | 6.65 | 1.84 | 7.01 |
| | | <i>LSD</i> † | 0.90 | 1.20 | 0.80 |
| Chardonnay | CHA 0% | 4.36 | 1.16 | 4.14 | 1.44 |
| | CHA 6.25% | 4.36 | 0.31 | 3.88 | 1.36 |
| | CHA 12.5% | 4.48 | 0.56 | 4.36 | 1.01 |
| | CHA 25% | 4.43 | 1.69 | 3.82 | 2.97 |
| | CHA 50% | 4.30 | 2.02 | 4.09 | 3.44 |
| | CHA 100% | 4.24 | 3.93 | 3.37 | 5.12 |
| | | <i>LSD</i> † | <i>ns</i> | 0.82 | 0.51 |

Values in wine codes indicate percentage of smoke affected wine in the blends †Post-hoc Fisher’s least significant difference (LSD) values denote the numerical difference between means needed to attribute significant difference ($p = 0.05$).

SUPPLEMENTARY DATA

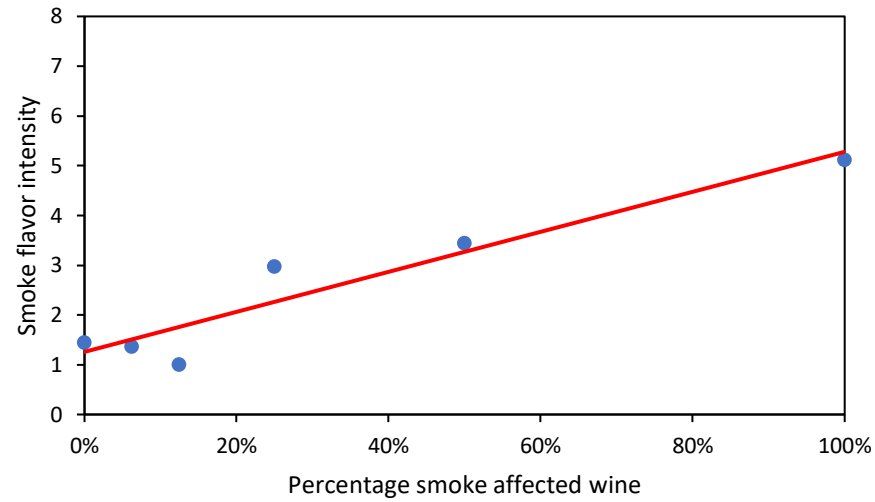
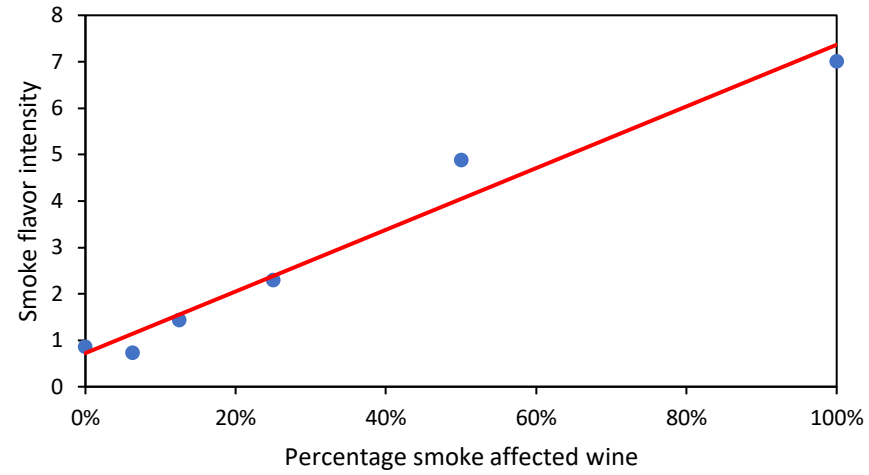
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SUPPLEMENTARY FIGURE 1. Mean consumer liking scores for Shiraz of 111 consumers and Cluster 1 (28 %), Cluster 2 (53 %), Cluster 3 (19 %) liking scores. Error bars for Fisher's least significant difference ($P = 0.05$).

SUPPLEMENTARY DATA

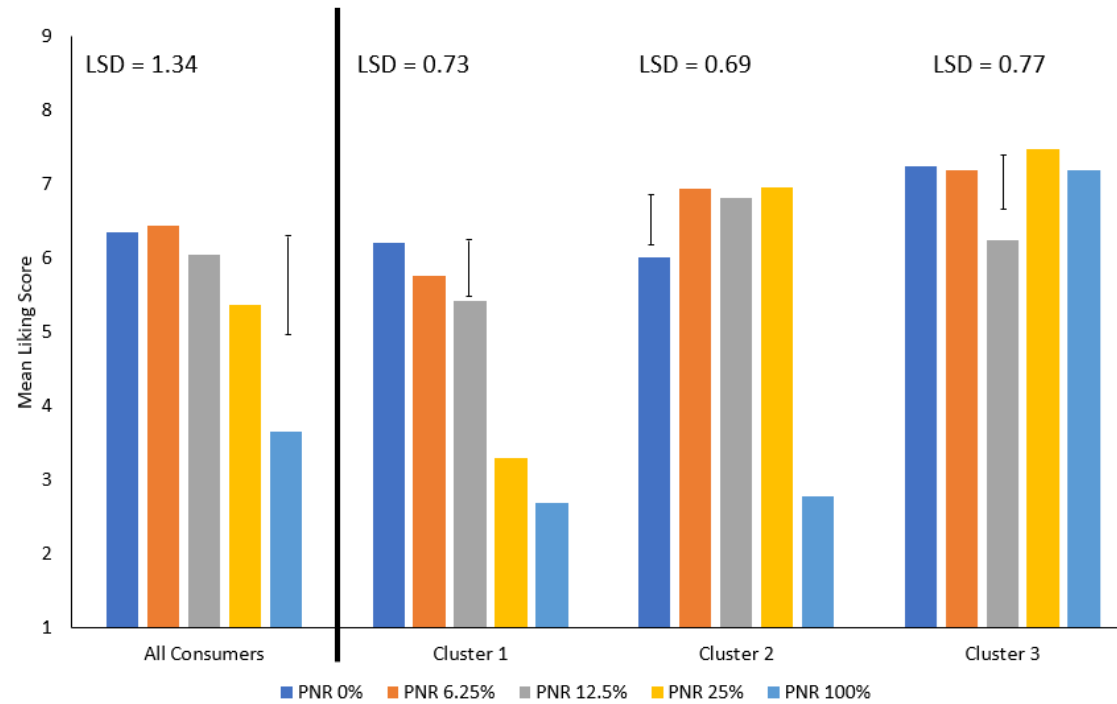
Bilogrevic, E., Jiang, W., Culbert, J., Francis, L., Herderich, M., & Parker, M. (2023). Consumer response to wine made from smoke-affected grapes. *OENO One*, 57(2). <https://doi.org/10.20870/oeno-one.2023.57.2.7261>



SUPPLEMENTARY FIGURE 2. Regression plots of the percentage of smoke affected wine and the mean smoke flavour intensity of the a) Pinot noir Rosé ($y = 0.066x + 0.72$, $R^2 = 0.97^{***}$) and b) Chardonnay ($y = 1.26 + 0.040x$, $R^2 = 0.91^{**}$) blends.

SUPPLEMENTARY DATA

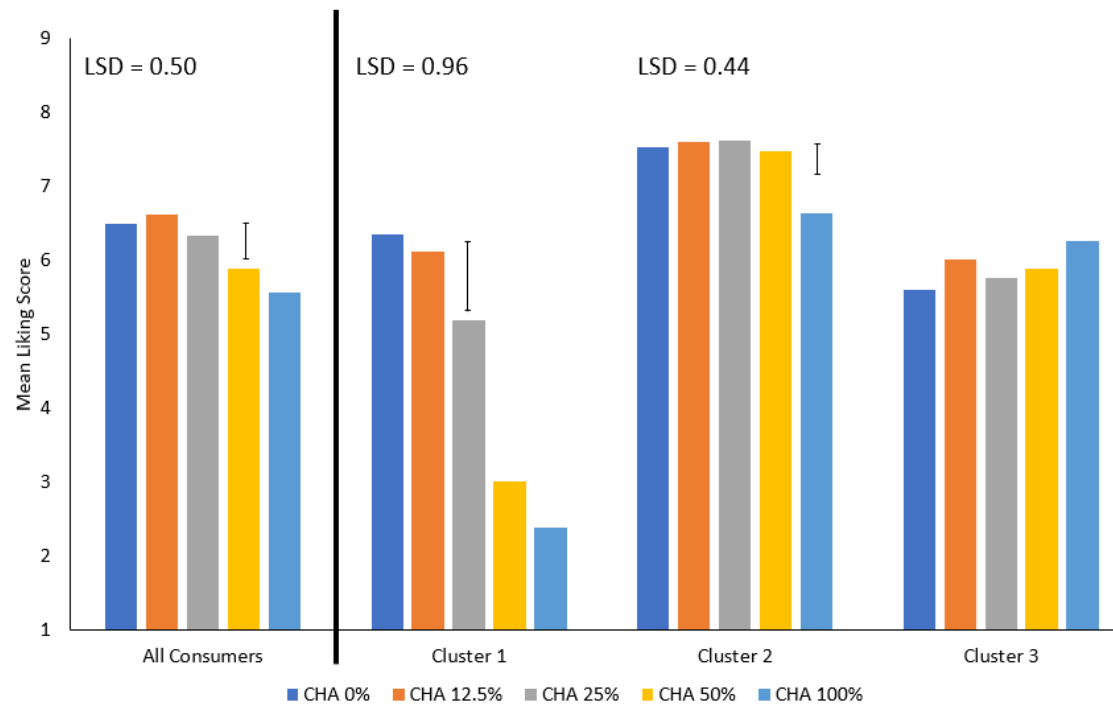
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SUPPLEMENTARY FIGURE 3. Mean consumer liking scores for Pinot noir rosé of all 82 consumers, and Cluster 1 (33 %), Cluster 2 (46 %), Cluster 3 (21 %) liking scores. Error bars for Fisher's least significant difference ($P = 0.05$).

SUPPLEMENTARY DATA

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SUPPLEMENTARY FIGURE 4. Mean consumer liking scores for Chardonnay of all 124 consumers, and Cluster 1 (21 %), Cluster 2 (38 %), Cluster 3 (40 %) liking scores. Error bars for Fisher's least significant difference ($P = 0.05$).