

5th MS-Wine Day

May 22-24, 2024

Research Centre for Enology and Viticulture, Asti

TRACES IN THE GLASS

MASS SPECTROMETRY

FOR QUALITY AND PROFILING

IN WINES, FERMENTED BEVERAGES, AND DISTILLATES

Main topics

Wine and Fermented Beverages quality

Traceability and Counterfeit in Fermented Beverages

Metabolomic and Proteomic Profiles in Wine, Beer, and Spirits

Cutting-Edge MS Techniques Applied to Enology

Monitoring Oenological Processes

Contaminants and Faults in Alcoholic Beverages

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**MASS SPECTROMETRY FOR QUALITY AND PROFILING IN WINES,
FERMENTED BEVERAGES, AND DISTILLATES**

Uni-Astiss Rita Levi Montalcini University Hub,

Fabrizio De Andrè Square, in Asti

May 22-24, 2024

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Base wines for sparkling wine from resistant varieties: effect of the altitude on the aromatic profile

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In a recent context where consumers pay an increasing attention to sustainability in the decision-making process, the use of the resistant varieties in the wine sector have returned at the forefront. Not only but the use of these varieties would reduce production costs due to the lower pesticide utilization to control grapevine moulds. However, the specific aroma profile looked for in base wines is strongly influenced by the cultivar.

This work aims to study the volatile composition of base wines produced from five resistant varieties (Bronner, Solaris, Johanniter, Sauvignier Gris, Vintera) cultivated in two experimental vineyards located in Trentino (IT): one situated on the valley bottom and the other on the hillside. The results were compared with those of Chardonnay, the main variety used in this area nowadays for sparkling wine production, cultivated in the same plots. The volatiles were extracted from the base wines and the GC-MS/MS analysis [1] allowed to quantify the aromatic compounds belonging to six different chemical classes: acetates, ethyl esters, alcohols, fatty acids, terpenes and norisoprenoids.

Among the varieties, Sauvignier Gris was characterised by methyl salicylate and 1-hexanol, while Solaris stood out for the concentration of β -damascone, acetates and ethyl esters. Bronner showed significant contents of some grape-derived metabolites, such as β -damascone and linalool. This terpene was also present in higher quantities in Solaris and Johanniter. Regarding the location, acetates and ethyl esters were higher in base wines of the valley bottom and fatty acids, higher alcohols, and terpenes in the hilly plot wines.

References

1. Paolini, M.; Tonidandel, L.; Moser, S.; Larcher, R. *J. Mass Spect.* **2018**, 53(9), 801-810, doi:10.1002/jms.4259