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Mass Spectrometry & Grapes, Wines, Spirits

CONFERENCE PROCEEDINGS

Interannual variability of varietal aromatic compounds in distillates obtained from 'resistant' *cultivars*

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In recent years, some interspecific hybrids variously resistant to the main diseases of fungal origin (PIWI) have been included among the varieties of grapes under observation in many Italian regions with the intention of assessing their aptitude for the production of wine grapes. Nowadays, also in the spirit drinks sector, the demand of consumers for products with organic certification or environmentally friendly, paying increasing attention to health. The current legislation however, allows the use of marcs of hybrid varieties for the production of Grappa regardless of the oenological destination of grapes. Knowledge of the aptitude of these new varieties for the production of wines and spirits is moreover very limited and for some of them, practically absent. For these reasons, a three-year study granted by the Autonomous Province of Trento through the "Vevir" project was conducted aimed to obtain information of the aromatic potential of distillates obtained from PIWI varieties grown in an experimental vineyard in Trentino.

The present work reports the comparison of the main aromatic varietal grape compounds present in the distillates of Aromera, Bronner, Helios, Johanniter, Muscaris, Solaris and Souvignier Gris. Samples were obtained using a standardized protocol of fermentation and distillation, the last performed in an experimental distiller equipped with a 12 L water bath alembic. After separation of heads and tails, the heart fractions were analysed by gas chromatography and mass spectrometry after solid phase enrichment (SPE).

The results obtained confirm the terpenic richness of Aromera and Muscaris distillates, although with high interannual variability. In particular, Aromera is distinguished by the higher content of linalool oxides, linalool, α-terpineol and polyols, while Muscaris is characterized by the higher content of citronellol, nerol, geraniol and rose oxides. Comparison with previous studies shows similarities between Aromera and Yellow Muscat and between Gewürztraminer and Muscaris, based on their content in "skin terpenols". Bronner has shown the highest content of norisoprenoids in all samples.