Aromatic profile of Chardonnay – clone 809: from berry to sparkling wine in an altitude vineyard (Brazil)

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Introduction & Objective
Wine consumption is linked to consumer preference and expectations. The aromatic profile is an important sensory attribute and reflects the viticultural and oenological practices applied. Studies related to clones seek to assess adaptation, production, and differences in sensory characteristics. Thus, the aromatic profile of Chardonnay cultivar clone 809 was evaluated, due to its moscato character, in order to verify its potential for sparkling wine production in the southeast region of Minas Gerais (Brazil) in comparison to clone 76 the predominant material cultivated in the region.

Materials & Methods
HS-SPME/GC-MS: free volatiles compounds
grapes, musts, base wines and sparkling wines

Vinification: Sparkling wine (Champenoise Method sur lie 18 months) – Saccharomyces bayanus

Summer Vintages:
2017 and 2018

Vineyards
Chardonnay clones: 76 and 809 grafted onto Paulsen 1103, vertical trellis system, 1 m

Analysis Matrices
Multivariate analysis

Analysis of all Matrices:
Grapes, Musts, Base and Sparkling wines

Number of terpenoid compounds

Clone 809 Clone 76
Monoterpenoids 31 14
Sesquiterpenoids 1 1
C13-norisoprenoid 1 1

Total Area of Monoterpenoid Compounds

PC 1 (42.3%)
PC 2 (14.9%)
PC 3 (15.1%)

Conclusions
❖ Clone 809 biosynthesises a greater number and quantity of monoterpenoid compounds, and they keep to the sparkling wines;
❖ Sparkling wines were grouped according to their clones: significant influence derived from the variability of the clones;
❖ Clone 809 compounds: confers floral, fruity and sweet aromas to sparkling wines;
❖ Sensory analysis would be an additional tool to confirm the Moscato character and to guide further experiments.

Results

Multivariate Analysis:
Base wines and Sparkling wines

Monoterpenoid compounds:
α-Terpineol
Linalool
β-Mycene
Limonene
Nerol oxide
Hotrienol

References
Website: https://pilbmgrape.plantnet-project.org/en/cepage/Chardonnay

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