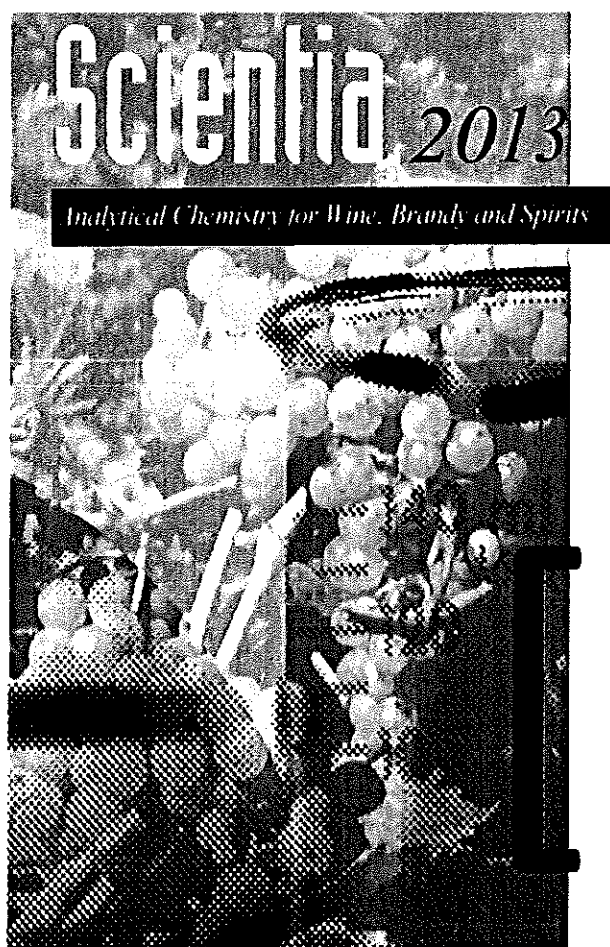


EIGHT SYMPOSIUM

In Vino Analytica



Book of Abstracts
Edited by Philippe JEANDET

[IVAS] 2013

**IN VINO ANALYTICA
SCIENTIA SYMPOSIUM 2013**

University of Reims, Faculty of Sciences - July 2-5 2013

IN VINO ANALYTICA
SCIENTIA SYMPOSIUM
2013

Reims 2 -5 July

IN VINO
Analytica

SCIENTIA 2013
Analytical Chemistry for Wine, Brandy and Spirits



P31: Glycosyl Residue Composition and Polysaccharide Families in Natural Spanish Sparkling Wines: The Role of Grape Variety and Time of Aging in Presence and Absence of Yeast Lees

Martínez-Lapuente L.^a, Martínez-Pinilla O.^a, Guadalupe Z.^{*a}, Ayestarán B.^{*a}, Ortega-Heras M.^b and Pérez-Magariño S.^c

^aInstituto de Ciencias de la Vid y del Vino (Universidad de la Rioja, Gobierno de La Rioja y CSIC). C/ Madre de Dios 51. 26006 Logroño. Teléfono: +34 941299722; Fax: +34 941299721

^bUniversidad de Burgos, Pza. Misael Bañuelos s/n 09001, Teléfono: +34 947 25 88 15

^cInstituto Tecnológico Agrario, Ctra. Burgos Km. 119 Finca Zamadueñas.47071 Valladolid. Teléfono: +34 983 415 245

*zenaida.guadalupe@unirioja.es

Keywords

Sparkling wines, aging on yeast lees, polysaccharides rich in arabinose and galactose, homogalacturonans, rhamnogalacturonan II, mannoproteins, glucans

Contribution

Main polysaccharides in wines include polysaccharides rich in arabinose and galactose, rhamnogalacturonans and homogalacturonans from grape berries, but also mannoproteins and glucans which are released by yeast during fermentation and during ageing on yeast lees. These compounds have an important influence on the organoleptic properties of sparkling wines. Consequently, the variables grape variety that the wines are made from and their aging time in bottle can affect polysaccharide composition and sensory quality of wines. Therefore, this work addresses to evaluate the role of grape variety and aging in presence and absence of yeast lees on polysaccharide composition of sparkling wines. For this purpose different autochthonous grape varieties from Spain (Verdejo, Viura, Malvasía, Albarín, Godello, Garnacha and Prieto Picudo) were used to elaborate monovarietal sparkling wines. Samples for analysis were taken after 9 and 18 months of aging on yeast lees in bottle (T9M and T18M) and after that 12 months of aging in bottle in absence of yeast lees (T9M+12MB and T18M+12MB). Glycosyl residue composition and polysaccharide families of natural sparkling wines were determined by GC-MS [1]. Glycosyl residue composition and polysaccharide families allowed a differentiation of wines according to time of aging in bottle in presence and absence of yeast lees. In general all polysaccharide families decreased during the aging in bottle, although the largest decline occurred in absence of yeast lees. Polysaccharide families profile was maintained in all samples during the two aging techniques. Applying the discriminant analysis, an accurate classification of sparkling wines by grape variety and aging in presence and absence of yeast lees was obtained. As a result, these compounds may play an important role, as oenological compounds, to differentiate varietal sparkling wines.

REFERENCES

- [1] Guadalupe, Z., Martínez-Pinilla, O., Garrido, A., Carrillo, J. D., Ayestarán, B. Quantitative determination of wine polysaccharides by gas chromatography-mass spectrometry (GC-MS) and size exclusion chromatography (SEC). *Food Chemistry*, 2012, 131, 367-374.