
EFFECT OF THE WINEMAKING TECHNOLOGY ON THE PHENOLIC COMPOUNDS, FOAM PARAMETERS IN SPARKLING WINES FROM TEMPRANILLO

A. Ruiz¹, M. González-Lázaro¹, L. Martínez¹, Z. Guadalupe¹, B. Ayestarán^{1*}, M. Bueno-Herrera², P. López de la Cuesta², C. González-Huerta² S. Pérez-Magariño² 1Instituto de Ciencias de la Vid y del Vino (Universidad de la Rioja, Gobierno de La Rioja y CSIC). Ap. Postal nº 1.042 - 26080 Logroño - Finca La Grajera, Ctra. de Burgos Km. 6 (LO-20 salida 13) 26007 Logroño, La Rioja Spain. *E-mail: belen.ayestaran@unirioja.es 2Instituto Tecnológico Agrario de Castilla y León. Consejería de Agricultura y Ganadería. Ctra Burgos Km 1.19, Finca Zamaduenas. 47071 Valladolid, Spain. Keywords Red sparkling wine, carbonic maceration, destemmed-crushed grapes, colour, polyphenols, foam parameters. Contribution Sparkling wines elaborated following the traditional method undergo a second fermentation in closed bottles of base wines, followed by aging of wines with lees for at least 9 months. Most of the sparkling wines elaborated are white and rosé ones, although the production of red ones is highly increasing. One of the initial problems in red sparkling wine processing is to obtain suitable base wines that should have moderate alcohol content and astringency and adequate color intensity; which is difficult to obtain when grapes must be harvested at low phenolic and industrial maturity stage. The low phenolic maturity degree in the red grapes makes essential to choose an adequate winemaking methodology to obtain the base wines because the extracted polyphenols will vary according to the winemaking technique: carbonic maceration or destemmed-crushed grapes. Therefore, wines with different phenolic contents will be obtained, which may affect the foam quality of the sparkling wine. Therefore, this work studies the effect of the winemaking technique used to obtain the base wine on the color, polyphenolic compounds and the foam parameters HM (maximum height reached by foam after CO₂ injection) and HS (foam stability height during CO₂ injection). Grapes from Tempranillo variety were harvested in prematurity grapes. Then, two base red wines were manufactured using the carbonic maceration technique, and the traditional destemming and crushing technique. Therefore, two red sparkling wines were manufactured using the traditional method. Samples for analyses were taken from the base wines and 9 months of aging on yeast lees. The sparkling wines made from the destemmed-crushed grapes showed the highest values of HS proanthocyanidins, monomeric anthocyanins and color parameters after nine months of wine aging. Acknowledgements The authors thank the INIA and the Ministry of Economy and Competitiveness for financing this study through the projects RTA2009-00029-C02-01 and RTA2012-00092-C02-01 (with FEDER funds)

Author	Email	Institution
*Belén Ayestarán	belen.ayestaran@unirioja.es	ICVV
Ana Ruiz	anaruizortega@hotmail.com	ICVV
Carlos González-Huerta	gonhueca@itacyl.es	Itacyl
Leticia Martínez-Lapucente	leticia.rija@hotmail.com	ICVV
Marta Bueno-Herrera	bueherma@itacyl.es	Itacyl
Miriam González-Lázaro	miriam_gonzalez89@hotmail.com	ICVV
Pedro López De La Cuesta	lopcuepe@itacyl.es	Itacyl
Silvia Pérez-Magariño	PerMagSi@itacyl.es	Itacyl
Zenaida Guadalupe	zenaida.guadalupe@unirioja.es	ICVV