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**Título artículo:** Comparative study of volatile substances and ellagitannins released into wine by *Quercus pyrenaica*, *Quercus petraea* and *Quercus alba* barrels

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**Autores:** Jordi Gombau, Pedro Cabanillas, Adela Mena, José Pérez-Navarro, Jaume Ramos, Agustí Torner, Francesca Fort, Sergio Gómez-Alonso, Esteban García-Romero, Joan Miquel Cannals, Fernando Zamora

#### RESUMEN:

The aim of this work was to study the cooperage potential of the oak species *Quercus pyrenaica*, which is widespread throughout the Iberian Peninsula. A red wine of 2016 vintage was aged in new barrels made from *Quercus pyrenaica*, *Quercus petraea* and *Quercus alba* for 12 months. This process was repeated with a similar red wine from the subsequent vintage using the same barrels in order to compare the performances of the new *Q. pyrenaica* barrels and *Q. pyrenaica* barrels that had been used for one year with equivalent *Q. petraea* and *Q. alba* barrels. The results indicate that *Q. pyrenaica* releases levels of  $\beta$ -methyl- $\gamma$ -octalactone similar to those released by *Q. alba* and clearly higher than *Q. petraea*, whereas it releases levels of ellagitannins similar to *Q. petraea* and clearly higher than *Q. alba*. These data indicate that *Q. pyrenaica* is more similar to American oak from an aromatic point of view, since it provides mainly coconut notes, but is more similar to French oak in terms of wine structuration. Moreover, based on the preferences of a trained panel, the wines aged in the *Q. pyrenaica* barrels were ranked in second position, just behind the wines aged in the *Q. petraea* barrels and ahead of those aged in the *Q. alba* barrels. Consequently, *Q. pyrenaica* seems to have characteristics midway between the two most commonly used oak species for cooperage, confirming its high potential in this regard.

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