

Año: 2021

Título capítulo: Malolactic fermentation of tempranillo wines: effects on chemical composition and sensory quality.

Revista, volumen, páginas: Fermented and Distilled Alcoholic Beverages (*Capítulo 3*) (pág 53-77)
Editor: M.B.M. de Castilhos et al. Primera edición. Imprime: Nova Science Publishers, Inc. ISBN: 978-1-53618-985-8. Edita: Nova Science Publishers, New York, USA.

Autores: P. M. Izquierdo-Cañas, S. Gomez-Alonso, E. Garcia-Romero, G. Cordero-Bueso y M. Ll. Palop Herreros

RESUMEN:

This chapter describes changes that occurred in the enological parameters, volatile fraction composition, and sensorial quality of Tempranillo wines as a result of malolactic fermentation (MLF). The first part is dedicated to evaluating the influence of the strain of lactic acid bacteria (LAB) inoculated to perform the MLF for what three *Oenococcus* (*O.*) *oeni* strains were assayed: an autochthonous strain, C22L9, isolated from a winery in Castilla-La Mancha (Spain), and two other commercial strains, PN4™ and Alpha™ (Lallemand Inc.), all introduced by direct inoculation (MBR™). Strain C22L9 carried out MLF slightly faster than the two other commercial strains, leading to a lower increase in volatile acidity and 2,3-butanedione and 3-hydroxy-2-butanone concentrations, higher lactic acid content, and lower degradation of citric acid. The second part of the chapter is dedicated to evaluating the pros and cons of co-inoculation (COI) of LAB and yeast versus the traditional process carried out in wineries in which LAB are inoculated after completion of alcoholic fermentation by yeast, in a process known as sequential inoculation (SEQ). The study was performed over two commercial yeast strains (VRB™ and VN™) and an autochthonous *Oenococcus oeni* strain (C22L9), and parameters analyzed include the kinetic of vinification process and the chemical and sensory characteristics of Tempranillo wines produced. Results from this research showed that concurrent yeast/bacteria inoculation of musts produced a significant reduction of process length, without a pronounced degradation of L-malic acid during AF, nor an excessive increase in volatile acidity.

Agradecimientos:

Pedro Miguel Izquierdo Cañas wishes to thank the Fondo Social Europeo and the Junta de Comunidades de Castilla-La Mancha for co-funding their contracts through the INCRECYT program.