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Título artículo: The Effects of a Saccharomyces cerevisiae Strain Overexpressing the Endopolygalacturonase PGU1 Gene on the Aminoacidic, Volatile, and Phenolic Compositions of Cabernet Sauvignon Wines.

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RESUMEN:

The addition of pectinase enzymes during the maceration stage of grape skins in order to improve the extraction yields and color of red wines is a common practice in many wineries. The objective of this work was to study in depth the changes that occurred in the aminoacidic, volatile, and phenolic compositions of Cabernet Sauvignon wines fermented with a Saccharomyces cerevisiae strain genetically modified with the gene encoding for endopolygalacturonase (PGU1) in transcriptional fusion with the promoter of the phosphoglycerate kinase (PGK1) gene, both from S. cerevisiae origin. A higher yield extraction of wine was obtained in wines fermented with the modified strain (PW), increasing by around 6.1% compared to the control wine (CW). Moreover, there was a 40% decrease in the malic acid content in the PW, thus suggesting that this modified yeast could be investigated as a malic acid-reducing agent. There were slight differences in other aroma volatile compounds studied as well as in the phenolic content. However, there was a considerable increase in the amino acid content in the PW.