

Poster

Analysis on the yeasts population during Jerez wines fermentation



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ABSTRACT

Motivation: To study the yeasts population present during each of the main stages in Jerez de la Frontera's fine wine, comparing the traditional fermentation in oak butts to the current one in stainless steel tanks. Special attention will be paid to the presence of the so-called "flor yeasts". Due to their ability to create a velum that covers the wine surface during the wine aging process, they are the principal responsible for the properties associated with this type of wine (1).

Methods: Samples were taken at four different fermentation stages in two butts and three tanks in the winecellar, and plated on YPD media. From each of the samples, ten colonies were isolated and analyzed by using the DNA mitochondrial restriction technique and microsatellite analysis (2,3). The results were compared according to band patterns after the electrophoretic separation of the fragments obtained by both techniques to differentiate the yeast present in each step of the fermentation. The strains that showed patterns similar to those previously detected in flor yeasts, were inoculated in wine to observe if they developed as a velum.

Results: In this analysis, 22 different patterns for the mitochondrial DNA restriction technique, and 22 for microsatellite analysis, were obtained. Combining these results a total of 32 wine yeasts were identified. In the oak butts, the yeasts population got homogenized earlier than the one performed in tanks.

Conclusions: As the wine fermentation process progresses, wine yeasts variability diminishes, being liable to homogenize in most cases. The pattern followed by yeasts population during the wine process is divergent in oak butts and tanks. This difference may be due to the fact that there was a flor yeasts population in the butts prior to the grape must introduction. These yeast therefore prevailing in the wine since the beginning of the fermentation process.

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