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ABSTRACT BOOK



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Microbial Population Associated to The Fermentation Process of “Negrinha De Freixo” Table Olives Produced In Portugal

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Abstract

“Negrinha de Freixo” is a typical table olive cultivar of the Northeastern region of Portugal, processed according to the natural fermentation methodology. Due to its distinctive characteristics, the “Negrinha de Freixo” table olives have been identified as Protected Designation of Origin (PDO). Despite its importance, no information about the microflora composition occurring in the fermentation process is available. The aim of the present study was to evaluate changes in some chemical characteristics and microbiological composition in brine during “Negrinha de Freixo” spontaneous fermentation. The microbial groups assessed by culture-dependent analysis were yeasts and lactic acid bacteria; and the chemical analysis included the measure of the pH and titratable acidity.

The results indicate that yeasts were the main group of microorganisms involved during all fermentation process, but lactic acid bacteria (LAB) were also important in the second phase. Yeast and LAB populations ranged in 5.0-6.3 log cfu/ml and 2.3-5.8 log ufc/ml, respectively, during de fermentation. The final pH and the titratable acidity were 3.36 and 0.90 g of lactic acid/100ml, respectively. The yeasts population dynamics was showed to be significantly correlated with the pH and acidity values that occur during the fermentation process.

The results obtained from this study could contribute to the improvement of fermentation processing, allowing the increase of their quality and simultaneously of their safety.

Keywords: Negrinha de Freixo, table olives, yeasts, lactic acid bacteria, fermentation