

# Microbiological and physicochemical characterization of green table olives of Halkidiki and Conservolea varieties processed by the Spanish method on industrial scale

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## Abstract

The microbiological and physicochemical changes of industrially fermented Halkidiki and Conservolea green table olives were determined. Samples were analyzed to monitor the population of lactic acid bacteria (LAB), yeasts and *Enterobacteriaceae*, together with changes in pH, acidity, salinity, color, lactic acid, acetic acid and ethanol. LAB and yeast species diversity was evaluated at the beginning (1 day), middle (75 days) and final (135 days) stages of fermentation by RAPD-PCR genomic fingerprinting. Results revealed vigorous lactic acid processes as indicated by the dominance of LAB over yeasts. No *Enterobacteriaceae* could be detected after 30 days. *Lactiplantibacillus plantarum* (formerly *Lactobacillus plantarum*) dominated in the beginning of fermentation in both varieties. In the end, *Lactiplantibacillus pentosus* (formerly *Lactobacillus pentosus*) and *Pediococcus ethanolidurans* prevailed in Halkidiki and Conservolea varieties, respectively. As for yeasts, *Kluyveromyces lactis/marxianus* and *Pichia manshurica* prevailed at the onset of fermentation in Halkidiki and Conservolea varieties, whereas in the end *Pichia membranifaciens* dominated in both varieties.

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