

Title Selection of a decontamination treatment for fresh *Tuber aestivum* and *Tuber melanosporum* truffles packaged in modified atmospheres

Author Carmen Susana Rivera, María Eugenia Venturini, Rosa Oria and Domingo Blanco

Citation Food Control, Volume 22, Issues 3-4, March-April 2011, Pages 626-632

Keywords Ethanol; Ultrasound treatment; *Tuber aestivum*; *Tuber melanosporum*; Modified atmosphere packaging

Abstract

The objective of this study was to develop a surface disinfection method which, combined with modified atmosphere packaging (MAP), prolonged the shelf-life of *Tuber aestivum* and *Tuber melanosporum* truffles. *T. aestivum* was washed with sodium hypochlorite (500 ppm chlorine), hydrogen peroxide (5%) and ethanol (70%) alone or in combination with ultrasound (35 Hz) for 10 min at 4 °C. Dipping in ethanol 70% with ultrasound was found to be the most effective treatment, achieving 4 logarithmic reductions for pseudomonads, reductions greater than 2 logarithmic units for Enterobacteriaceae, lactic acid bacteria and molds and 1.5 logarithmic reductions for yeasts. Finally, both truffle species were decontaminated with the selected treatment, packaged with a microperforated film and stored at 4 °C for 28 days. In this situation the microbial counts and the sensory quality were maintained throughout storage and the shelf-life of both truffle species were prolonged to 28 days.