Title Decontamination and preservation of *Tuber aestivum*

Authors C.S. Rivera, D. Blanco, R. Oria, M.E. Venturini

Citation ISHS Acta Horticulturae 804:277-282. 2008.

Keywords decontamination; truffles; MAP

Abstract

The ascocarps or fruiting bodies of the Ascomycotina fungi, that belongs to the genus *Tuber*, are best-known as truffles. In order to satisfy the consumer demand, it is necessary to increase the production of these ascocarps and to optimize methods for their storage so that their shelf-life can be prolonged and freshness preserved. We applied decontamination and barrier techniques to establish the conditions that would increase the shelf-life of fresh summer truffles (*Tuber aestivum*). Truffles were obtained in the Spanish region of Aragon. Samples were subjected to physical (UV-C light and sonication) or chemical (70% ethanol, 5% hydrogen peroxide, 0.5% sodium hypochlorite) decontamination procedures. Chemical procedures were applied solely or in combination with sonication. Truffles were then stored at 4°C for 14 d in modified atmosphere packaging. The efficacy of the decontamination procedures was assessed with measures of mesophilic aerobic bacteria, *Pseudomonas spp*., Enterobacteriacea family, moulds and yeasts. Surface and pulp colour, texture, sensorial analysis and microbial growth were evaluated every 7 d. Results showed that treating the truffles with 70% of ethanol and sonication was the most effective reducing initial microbial load by 4 log units and having no negative impact on appearance or the typical odour of fresh truffles.