

MICROORGANISMS ASSOCIATED WITH THE QUALITY OF THE BLACK TRUFFLE (*Tuber melanosporum*) PRODUCED IN ARGENTINA

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Among biotic factors influencing the development of truffles, soil microorganisms may contribute to their quality after harvest. Previous studies identified some bacteria involved in their premature decomposition, however some specific Proteobacteria may also produce volatile compounds contributing to their particular aroma. For instance, we aimed to characterize the microbial populations (fungi and bacteria) of *Tuber melanosporum* ascocarps at harvest and after a storage time. Healthy and deteriorated truffles were received from a truffles producer. From the first group, total mesophilic microorganisms, Enterobacteriaceae, moulds and yeast counts were determined. From the second group, moulds were isolated from under a stereomicroscope. Mesophilic aerobic bacteria ranged from 10^4 - 10^8 CFU/g, showing lower counts in fresh truffles than in those having 15 days of storage. Fam. Enterobacteriaceae counts ranged from <10 - 10^4 CFU/g. No moulds and yeast were observed in fresh truffles, but in storage conditions the counts were $<10^2$ - 10^3 CFU/g. Up to now, from the peridium of healthy fresh truffles were identified strains of the genera *Cephalotrichum*, *Cosmospora*, *Exophiala*, *Fusarium*, *Lecanicillium*, *Sarocladium*, and *Phialophora*. From the gleba were isolated *Fusicola violaceae*, *Aspergillus* sp., *Fusarium* sp., and *Pseudomonas* sp. In deteriorated truffles *Clonostachys rosea*, *Cladosporium* sp., *Fusarium* sp. and *Mucor* sp. were recovered. Our preliminary results indicate an interesting and diverse microbial community among the peridium and the gleba tissues. Further analysis on these communities will be focused on determining whether the identified microorganisms can promote differential effects on the decomposition (consistency and aroma) of truffles during storage.

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