Mycobiota of São Jorge Cheeses with different ripening periods P48

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The growth of filamentous fungi in the cheese surface makes the product undesirable (and therefore disposable) and can even present a health risk due to the production of secondary metabolites, such as mycotoxins. The São Jorge cheese is a highly appreciated product from São Jorge Island, Azores, Portugal. It is made with raw cow milk and has long ripening periods, up to 36 months. This product obtained the Protected Designation of Origin (PDO) certification in 1986.

Considering that the mycobiota of traditional Portuguese cheeses is understudied, the main goal of this work was to unveil the mycobiota of three São Jorge cheeses with different ripening periods (five, nine and thirty months). Direct inoculation of the cheese in three different culture media was used and the isolates were identified through molecular methods (analysis of ITS and/or partial benA). A total of 32 isolates were identified from the cheese with the lowest period of ripening, mainly *Penicillium* spp. ser. *Camembertiorum* (23 isolates), but also *Aspergillus* sp. (1 isolates), *Scopulariopsis* sp. (1 isolate), and several yeasts (7 isolates). The mycobiota of cheese with the seven months of ripening was mostly composed of *Penicillium* spp. ser. *Camembertiorum* and *Saccharomyces cerevisiae*, with 8 and 9 isolates, respectively. In the 30 months cheese *Penicillium* spp. ser. *Camembertiorum* were also isolated, but *Scopulariopsis* spp. was predominant, with 20 out of 24 isolates. Although the mycobiota was largely composed of Ascomycota, two Basidiomycota were found in the cheeses with the longest periods of ripening.

Future studies will be conducted using metabarcoding techniques to disclose the uncultured mycobiota. These culture-independent techniques are less time consuming and more sensitive. They have shown to be a powerful tool to gain a better and faster understanding of the influence of the microorganisms in the cheese ripening process.

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