

## Abstract Submission

### Pilot Study of the air mycobiota of a cheese factory

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#### Abstract

Mould growth on cheese is very common and the main contamination source is believed to be the environment in the production facilities. The growth of filamentous fungi on the cheese surface makes the product undesirable and can even present a health risk due to the production of secondary metabolites, such as mycotoxins. In fact, conditions at which ripening occurs are favourable to fungi development, and indigenous moulds of the ripening rooms may colonize the surface of cheeses.

This work intended to investigate the air mycobiota of a Portuguese cheese industry to uncover the role of the air of the ripening chamber as the source of the observed cheese contamination. Air samples were collected using the impaction method on DRBC Petri dishes. Colonies were counted and, after seven days, the most common fungi were isolated in PDA medium. A contaminated cheese was also chosen to isolate visible fungi. Fungal isolates were identified through observation of microscopic characteristics and molecular methods (analysis of ITS or partial *benA*).

Three isolates were retrieved directly from the cheese and seven from the air samples. The identified genera were *Penicillium*, *Aspergillus*, *Botrytis* and *Cladosporium*. From cheese, only one species of *Penicillium* was isolated, which corresponded to the most abundant species from the air samples. The most relevant genus in the air mycobiota was *Penicillium*, with 3 isolates from 3 species, whereas all other genera were only represented by one species.

This study indicates that the air of the ripening room is a source of contamination for cheese and mitigation measures must be implemented.

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