Title: Linking the field-cereal-flour-sourdough-bread axis to microbial species diversity

Artisan bakery sourdoughs are characterized by a typical microbiota, often determined by the house microbiota, the flour and/or ingredients used, as well as the process conditions applied. Moreover, it has been shown that organic cereal production influences the development of the sourdough microbiota. Evidently, the flour is fundamental regarding nutrient availability and physicochemical parameters for the establishment of stable microbial consortia within a short fermentation period, so that only those species and/or strains that are very well adapted to the sourdough ecosystem will thrive. Competitiveness may thus, at least partially, explain the association of certain lactic acid bacteria species and/or strains with specific sourdough fermentation processes and bakery conditions. However, other factors may play a role as well, such as the agricultural practices involved and flour production. This research project will examine the field-cereal-flour-sourdough-bread axis, making use of both microbiological (culture-dependent and culture-independent methods) and metabolomic analyses.

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