

P027 Evaluation of *Lactobacillus helveticus* and *Klyuveromyces marxianus* as starter cultures for a wheat sourdough bread making process

S. Plessas, L.A. Bosnea, A.A. Koutinas and C. Psarianos
Food Biotechnology group, Department of Chemistry,
University of Patras, Greece

The behaviour of a mixed culture containing *Lactobacillus helveticus* and *Klyuveromyces marxianus* in sourdough breadmaking was evaluated. Specifically the efficiency of the mixed culture in producing bread of good quality, in terms of bread specific volume, preservation time, flavour, texture and shelf life, were evaluated. All sourdoughs produced by the mixed culture led to breads with higher acidity (pH 4.4–4.6) and higher specific volumes (maximum 2.3ml/g) compared to breads produced using traditional sourdoughs. Fermentation end- products (lactic and acetic acids) were also assayed during sourdough fermentation. The higher concentration of lactic acid (3.41g/1kg of bread), which was found in the case of using the mixed cultures resulted in extension of preservation time compared to traditional sourdough breads. Consumers showed a preference for sourdough breads prepared by the mixed culture, which was verified by headspace GC-MS analysis that revealed significant differences in the volatile composition between the two types of bread.