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# **Czech J. Food Sci.**

**P. Poinot, G.**

**Arvisenet, J. Grua-**

**Thou, C. Thonnard, S.  
Mezaize, M. De  
Lamballerie, A. Le-Bail,  
C. Prost:  
Advances in the  
Understanding of the  
Chemical Reactions  
Responsible for Bread  
Flavour Quality**

Czech J. Food Sci., 27 (2009): S54-S57

This work aimed at analysing bread extracts obtained under headspace and artificial mouth conditions in order to study the reactions responsible for bread flavour quality. Selected extraction conditions were first compared according to the odour and aroma representativeness of the bread extracts. The optimal conditions were then applied to extract volatiles of a conventional gluten bread formulation and an innovative gluten-free bread formulation. Results reveal that an extraction duration of 10 min in the artificial mouth was

sufficient to obtain a representative aroma extract. Yet, 30 min of headspace extraction were necessary to obtain a representative odorant extract. The comparison between these both extracts shows that significantly higher quantities of bread compounds were extracted with artificial mouth. This innovative device could thus be used to better understand the mechanisms involved in the formation of those volatiles that are responsible for the perceived bread odour and aroma.

**Keywords:**

gluten bread; gluten-free bread;  
headspace, artificial mouth;  
representativeness

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