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Czech J. Food Sci.

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Evidence for wheat, rye, and barley presence in gluten free foods by PCR method – comparison with ELISA method

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A method of the evidence for the presence of wheat, rye, and barley in gluten free foods, based on the polymerase chain reaction (PCR), was validated. DNA was isolated from foods by chaotropic solid phase extraction. The PCR method applied was focused on the intron of the chloroplast gene *trnL* and utilised primers WBR11 and WBR13. Electrophoresed wheat and rye DNAs were characterised by a 201 bp fragment, barley DNA by a 196 bp fragment. The validated PCR method was applied to the selection of 18 gluten free foods, previously found by ELISA method to contain 1 mg or more of gliadin per 100 g

food. The presence of wheat was confirmed by PCR method in all foods analysed. The comparison with the results obtained by ELISA method reliably verified the detection limit of PCR method, i.e., 0.02% wheat.

Keywords:

polymerase chain reaction; ELISA; wheat; rye; barley; gliadin

[fulltext]