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Czech J. Food Sci.

**Pavlátová L., Novotný
D., Hodek J., Chrpová**

Utilization of DNA microarrays for detection and identification of selected *Fusarium* species from the Czech Republic

Czech J. Food Sci., 29 (2011): S93-S101

Fusarium is a serious phytopathogenic fungal genus with producing of many kinds of highly toxic secondary metabolites – mycotoxins. The consumption of *Fusarium* contaminated food and feed can cause dangerous mycotoxicoses both in humans and animals, therefore the detection of a wide range of *Fusarium* species in the samples of crops is very important. The aim of our work was to test the reliability of detection and identification of three *Fusarium* species in infected wheat grains by DNA microarrays versus classical mycological methods and by specific PCR. The *in*

house DNA microarrays for the detection and identification of the selected *Fusarium* species by using oligonucleotides probes were prepared. For hybridisation on DNA microarrays, fluorescent labelled PCR products were used of part of the translation elongation factor 1 alpha. The conditions of hybridisation were optimised on fungal template DNA. The method of DNA