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CONFERENCE PROGRAM AND ABSTRACTS



Dynamics of Biogeochemical Systems:
Processes and Modeling

The 22nd International Symposium
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Development of PCR method for detection of *Neosartorya fischeri* and *Aspergillus fumigatus* in fresh strawberries and metabolic characterization of selected strains

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Soil environment is one of the most important sources of fungi that cause the spoilage of processed foods. Some of them produce mycotoxins or are resistant to high temperature. Fruit after contact with soil can be contaminated by dangerous microorganisms including heat-resistant fungi. Fungi form different structures depending on the growth stage: anamorphs and teleomorphs. Anamorphs of *N. fischeri* (NF) are morphologically very close to *A. fumigatus* (AF). Therefore for food industry it is very relevant to distinguish these two species.

The aim of the study was to develop the method based on primers elaborated by Yaguchi et al. [1] for fast detection of *N. fischeri* and *A. fumigatus* in fresh strawberries contaminated by mycelium and ascospores of these fungi. The study included the comparison of metabolic profile of 3 *N. fischeri* and 3 *A. fumigatus* strains. PCR method was appropriate to detect fungi in contaminated samples (Fig. 1), but purification and dilution of DNA was the critical step of procedure. Biolog FF plates analyses showed the specific metabolic profile for *A. fumigatus* and *N. fischeri* strains (Fig. 2), which was confirmed by cluster analysis.

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[1] T. Yaguchi, Y. Imanishi, T. Matsuzawa, K. Hosoya, J. Hitomi, M. Nakayama, Journal of Food Protection, 75(10), 2012, 1806-1813.