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BOOK OF ABSTRACTS

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The used methanol is produced by biotechnological process from different biomass row materials and wastes resulted from biomass. The paper treats these technological issues.

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PHOSPHORUS AND SULPFUR UTILIZATION PROFILES OF TWO HEAT-RESISTANT STRAINS OF *Neosartorya fischeri* USING PHENOTYPE MICROARRAY (PM PLATES)

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Neosartorya fischeri is a commonly isolated species from heat-processed fruit-based products. Molds are known to produce mycotoxins during their growth and therefore pose a hazard to human health. A necessary condition for reducing the negative effects of *Neosartorya fischeri* occurrence in fruit products is to understand its requirements for growth. The aim of the presented study was to evaluate utilization profiles of phosphorus and sulphur sources of *N. fischeri* strains.

The phenotype microarray system (PMs) was used to collect information on phosphorus and sulphur utilization profiles of *Neosartorya fischeri*. The PMs was

used to evaluate capability of sources utilization of two *Neosartorya fischeri* strains: reference (DSM 3700) and environmental (G48_12).

DSM 3700 strain, coming from canned apples, was purchased from DSMZ (Braunschweig, Germany). G48_12 was isolated in The Laboratory of Molecular and Environmental Microbiology, Institute of Agrophysics PAS (GenBank: KC179765). The strain was isolated from a strawberry product and identified as *N. fischeri* (Frąc et al., 2012) on the basis of a large subunit ribosomal RNA gene partial sequence. *N. fischeri* strains were cultured for 14 days in the dark at 27°C on PDA medium.

Substrate utilization screening of *N. fischeri* strains was analyzed following the OmniLog Phenotype MicroArray technology provided by Biolog (Biolog, Inc., Hayward, CA). Phosphorus and sulphur assimilation profiles were evaluated using PM4 MicroPlate. MicroPlate contains 96 wells including 59 different phosphorus sources and 35 sulphur sources. After inoculation PM MicroPlates were incubated in OmniLOG at 26°C for 96 hours. The Phenotype MicroArray (PM) software was used to analyze the results.

The most intensively utilized phosphorus substrates by the environmental strain were: Adenosine-5'-Monophosphate, Adenosine-2'-Monophosphate, Adenosine -3'5'-Cyclic Monophosphate. Adenosine-3'-Monophosphate, Adenosine -2'3'-Cyclic Monophosphate, Guanosine-3'5'-Cyclic Monophosphate have been used by both strains but much more actively by the reference strain. The most frequently used sulphur sources by G48_12 strain were as follows: L-Cysteine Sulphinic Acid, L-Methionine Sulphoxide, Methane Sulphonic Acid and Thiourea. N-Acetyl-D,L-Methionine, 2-Hydroxvethane Sulphonic Acid, p-Amino Benzene Sulphonic Acid, N-Acetyl-L-Cysteine strains have been used by both strains.

The environmental strain revealed much wider capabilities of using substrates located on Biolog plate, than the reference strain in both phosphorus and sulphur sources. G48_12 strain utilized almost all sources of phosphorus and sulphur whereas the reference strain was able to utilize less than half of phosphorus sources and one third of the sulphur source.

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