

DETERMINATION OF METHODOLOGY FOR MONITORING BIOFILM FORMATION OF FILAMENTOUS MICROSCOPIC FUNGI

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The formation of fungal biofilms and the possibility of its elimination is a relatively unexplored area of microbiology. Microbial life in the biofilm form provides microscopic fungi a number of benefits (e.g. increased resistance to inactivation and physical-chemical stress) and therefore increases their ability to survive successfully in the environment for a long time. In the food industry, biofilms allow colonization of surfaces, where cells are subsequently released from the biofilm, contaminating products and causing problems in food manufacturing. A deeper understanding of the morphology, metabolism, and molecular interactions of biofilms is required for its successful suppression or elimination. The presented study focuses on finding a suitable methodology for quantification of fungal biofilms. Four methods (crystal violet staining, MTT assay, XTT assay, resazurin assay) were selected, which are often used for quantification of bacterial biofilms, and subsequently tested on single-species biofilms consisting of *Alternaria alternata*, *Aspergillus niger*, *Fusarium culmorum* and *Fusarium graminearum* species.