

Extraction of Osmolytes from the Halotolerant Fungus *Aspergillus oryzae*

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Abstract : Salin soils occupy about 7% of land area; they are characterized by unsuitable physical conditions for the growth of living organisms. However, researches showed that some microorganisms especially fungi are able to grow and adapt to such extreme conditions; it is due to their ability to develop different physiological mechanisms in their adaptation. The aim of this study is to identify qualitatively the osmolytes that the biotechnological important fungus *A. oryzae* accumulated and/or produced in its adaptation, which they were detected by Thin-layer chromatography technique (TLC) using several systems, from different media (Wheat brane, MNM medium and MM medium). The results showed that The moderately halotolerant fungus *A. oryzae*, accumulates mixture of molecules, containing polyols and sugars , some amino acids in addition to some molecules which were not defined. Wheat bran was the best medium for the extraction of these molecules, where the proportion was 85.71%, followed by MNM medium 64.28%, then the minimum medium MM 14.28%. Properties of osmolytes are becoming increasingly useful in molecular biology, agriculture pharmaceutical, medicinal, and biotechnological interests.

Keywords : salinity, *aspergillus oryzae*, halo tolerance, osmolytes, compatible solutes

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