



STUDIES ON THE PRODUCTION OF COMMERCIALY IMPORTANT PHYTASE FROM *ASPERGILLUS NIGER* ST-6 ISOLATED FROM DECAYING ORGANIC SOIL

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ABSTRACT

Eighty seven microbial cultures were isolated from decaying organic soil. Sixty three isolates exhibited the phytase activity under submerged fermentation. Out of 63 isolated cultures, 45 isolates were primarily identified as *Aspergillus* spp. It was found that *Aspergillus niger* St-6 displayed maximum enzyme activity (85 U/ml). It was selected for further studies. Different cultural conditions such as pH, temperature, and carbon and nitrogen sources were optimized for maximum enzyme production. The effect of supplementation of wheat bran with different nitrogen and carbon sources on enzyme biosynthesis was also studied. Supplementation of fermentation medium with 1% ammonium nitrate increased phytase production. Optimal temperature was found to be 30 C. Results obtained showed commercial significance of *A. niger* st-6 for phytase biosynthesis under submerged fermentation.

Key words: *Aspergillus niger*, decaying organic soil, phytase, submerged fermentation.

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