

IMPROVED CONDITIONS FOR *ASPERGILLUS NIGER* TO PRODUCE GLUCOAMYLASE IN SOLID STATE CULTURE

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Aspergillus niger CFTRI 1105 was cultivated on solid medium for glucoamylase production. When soya meat powder concentration in the medium of one kg was varied from 0.0 to 200g while keeping the total carbohydrate concentration constant, maximum activity (274 U DMM^{-1} ; Dried mouldy medium) was obtained on the 3rd day in the medium containing 460g paddy husk and 200g of soya meat powder. Moisture content in the range of 60 - 65% of the medium not only improved the enzyme production (340 U DMM^{-1}) but also helped to obtain maximum activity on 2nd day. Among different spore number studied (from 4.5×10^5 to 4.5×10^9), 4.5×10^8 spores g^{-1} wet medium was the best. Soya meat powder (375 U DMM^{-1}) was the best for glucoamylase production than soya flour (275 U DMM^{-1}) and corn flour (275 U DMM^{-1}). The effect of paddy husk to soya meat powder ratio in solid state media was studied and the optimum paddy husk to soya meat powder ratio was 80:20 to obtain maximum glucoamylase (1700 U DMM^{-1}) production.
