

Enhanced Enzymes Production through Immobilization of Filamentous Fungi

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Abstract : Filamentous fungi are major producers of enzymes that have important applications in the food and beverage industries. The overall objective of this research is a strain improvement technology for efficient industrial enzymes production. The new way of filamentous fungi cultivation method has been developed. Such technology prolong producers' cultivation period up to 60 days and create the opportunity to obtain enzymes repeatedly in every 2-3 days of fungal cultivation. This method is based on immobilizing enzymes producers with solid support in submerged conditions of growth. Immobilizing has a range of advantages: Decreasing the price of the final product, absence of foreign substances, controlled process of enzyme-genesis, ability of various enzymes simultaneous production, etc. Design of proposed technology gives the opportunity to increase the activity of immobilized cells culture filtrate comparing to free cells, growing in periodic culture conditions. Thus, proposed research focuses on new, more versatile, microorganisms capable of squeezing more end-products as well as proposed cultivation technology led to increased enzymatic productivity by several times.

Keywords : filamentous fungi, immobilization, industrial enzymes production, strain improvement

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