

Semi-continuous Production of Gibberellic Acid by Using immobilized *Gibberella fujikuroi* B9

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Although immobilized cell cultures have potential advantages over suspended cell cultures for the production of secondary metabolites, there are several barriers to overcome for the development of commercial process using immobilized cell system. The one of the critical issues should be maintenance of the catalytic activity of original cells for long time in immobilized cell cultures. We investigated the feasibility of long term production of secondary metabolite, gibberellic acid, in the repeated batch cultures of immobilized fungal cells on celite beads. The optimal concentration of medium component was obtained by central composite design. The volumetric productivity and Y_p/s increased as the number of batches increased. We demonstrates that repeated use of immobilized fungal cells is possible without loss of activity of original cells for more than 67 days. Compared with suspended cell cultures, 3-fold higher cell concentration and thus 3-fold higher volumetric productivity were obtained in repeated batch cultures of immobilized cells.