

D-39: Isolation of α -galactosidase producing fungi

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Fungal α -galactosidase are widely used in industry to hydrolyse raffinose sugars as immobilization of fungal filaments is easier than immobilization of purified enzyme or enzyme producing bacteria. In this study, fungi producing α -galactosidase by incubation of soil in a culture medium containing 1% raffinose as the sole source of carbon, were isolated. Nine different species were isolated based on morphological characteristics. These species were cultivated for 120 h in a culture medium containing raffinose (1%), peptone (0.1%), yeast extract

(0.05%), K_2HPO_4 (0.1%), $MgCl_2$ (0.09%), $CoCl_2$ (0.01%) and $NaCl$ (0.1%). The culture medium was adjusted to pH 4.5. Under these conditions α -galactosidase activity of these species varied from 440 milliunits/ml of the supernatant to 4 milliunits/ml. Three selected species were cultivated under the same conditions and the effect of incubation time on α -galactosidase production was studied. It was observed that one species produced a supernatant α -galactosidase activity of 1.4 units/ml at 60 h of cultivation with a mycelium activity of 1 unit/g wet weight. This species was identified by slide culture method as an *Aspergillus* species.