ABSTRACT

The present work describes the production of β-glucosidase by *Sporotrichum thermophile* using submerged fermentation. Production of protein and enzymes was investigated by *Sporotrichum thermophile* under different cultural conditions. Mandel and Reese salt medium containing (g/L); $(NH_4)_2\ SO_4$ (1.4), KH_2PO_4 (2.0), urea (0.3), $MgSO_4.7H_2O$ (0.3), $ZnSO_4.7H_2O$ (0.0014), $FeSO_4.7\ H_2O$ (0.005), $MnSO_4$ (0.0016), $CoCl_2$ (0.002), $CaCl_2$ (0.002), Tween-80 (2.0 ml) and polypeptone (1.0) was found better than all other media which were tested, with 2.0% wheat bran as a carbon source. Different monosaccharides and oligosaccharides were used as an additional carbon source but cellobiose at 0.05% concentration was found to be optimum for the β-glucosidase production. The optimum temperature, pH and incubation time were 45°C, 6.0 and 72 h, respectively. 36 h old vegetative inoculum gave better production of β-glucosidase in present work. After optimizing the cultural conditions, maximum activity (9.04 U/ml/min) of β-glucosidase was recorded.