

Abstract

The present study is concerned with the production and characterization of pectinase from locally isolated *Aspergillus niger*. Thirty one strains of *Aspergillus niger* (locally isolated from compost, fungus infected fruit peels and soil) were screened by submerged fermentation to obtain a strain of better potential for the production of pectinase. Different fermentation medium, carbon and nitrogen sources were evaluated and found that the medium containing (g/L) NaNO_3 (2.0), K_2HPO_4 (1.0), MgSO_4 (0.5), KCl (0.5) and FeSO_4 (0.01) gave maximum pectinase activity (20.80 ± 0.52 U/ml/min) with 1.0% pure citrus pectin and 0.3% NaNO_3 . Effect of fermentation time, initial pH, temperature, inoculum size and aeration was also examined. Maximum pectinase activity was obtained with 5% spore inoculum after 96 h of incubation, at 30°C and pH: 5.5.

Characterization was done to determine the optimal activity of pectinase as it is greatly influenced by temperature, pH and incubation time. Maximum pectinase activity was observed at temperature of 45°C . Effect of pH and incubation time showed the enzyme to be most active at pH: 6.6 after 45 min of incubation.