



Abstract

Six different strains of *Aspergillus* species *Aspergillus niger* (IIB-F01), *Aspergillus oryzae* (IIB-F08), *Aspergillus japonicus* (816), *Aspergillus carbonarius* (811), *Aspergillus fumigatus* (815) and *Aspergillus flavipes* (825) were screened for the protease production. In solid state fermentation two strains *Aspergillus niger* and *Aspergillus fumigatus* gave maximum enzyme activity of 3.02 U/ml and 3.27 U/ml respectively. Enzyme production by *A. niger* in the medium was optimized by media diluents, sugar source, nitrogen source and agricultural substrate producing supreme protease value with D₃ (3.58 /ml), fructose (4.2 U/ml), peptone (4.47 U/ml) and wheat bran and soya bean meal (4.5 U/ml), accordingly. Optimum temperature, fermentation period and pH for the production of protease were 30°C (4.5 U/ml), 96 hrs (5.8 U/ml) and 3 (8.3 U/ml), respectively. The enzyme activity of *A. fumigatus* was optimized by optimum nutritional and physical parameters of D₅ (3.79 U/ml), sucrose (4.52 U/ml), peptone (4.56 U/ml), substrate wheat bran and soya bean meal (4.3 U/ml), 30°C (4.8 U/ml), 120 hrs (7.1 U/ml), pH 9 (7.92 U/ml), respectively.