

ABSTRACT

The present study is concerned with isolation, screening, production and optimization of alpha-amylase from the isolated fungal strain (IAK-JT-1) that belongs to *Aspergillus* sp. In this context, solid state fermentation technique was employed using 5 g of wheat bran as substrate. Various cultural conditions such as incubation time, incubation temperature, pH of the medium, inoculum size, carbon and nitrogen sources were optimized for maximum alpha amylase production. The results indicated that the maximum enzyme production i.e. 13.71 U/mg was observed after 72 hours of incubation at 30°C, pH 6 with 2mL inoculum size and the substrate utilization percentage of 78.20%. Effect of carbon and nitrogen sources on the production of alpha amylase was also studied at optimized conditions. The starch (1% w/v) was evaluated to be the best carbon source as evident from enhanced specific activity of amylase and substrate utilization percentage (15.49 U/mg and 78.74%). Among different organic and inorganic nitrogen sources, peptone (1% w/v) and NH_4NO_3 (1% w/v) gave maximum alpha amylase production i.e. 15.77 U/mg and 15.89 U/mg, respectively.