



Abstract

Protease production under solid-state fermentation was investigated using isolated *Bacillus Licniformus*. Among all agro-industrial waste material evaluated, green gram husk supported maximum protease production. Solid material particle size regulated the enzyme production and yield was improved with the supplementation of carbon and nitrogen sources to the solid medium. Optimum enzyme production was achieved with 1.5% maltose and 2.0% yeast extract with 371% increase than control. Glucose did not repressed enzyme production but inorganic nitrogen sources showed little negative impact. The physiological fermentation factors such as pH of the medium (pH 9.0), moisture content (140%), incubation time (60 h) and inoculum level played a vital role in alkaline protease production. The enzyme production was found to be associated with the growth of the bacterial culture. Immobilization is the confinement of cell or enzyme in a different support or matrix. Enzyme immobilization permit the support to change the medium which are substrate inhibitor or effector molecules