Ossein waste: A potential raw material for protease production

Abstract

The objective of this work was to utilize ossein waste (degelatinised bones) from gelatin industry as an innovative substrate for protease enzyme production and to optimize the process parameters of protease production in a batch reactor. Production of protease enzyme was carried out using ossein waste as nitrogen and carbon source. The waste residue was cleaned, ground and sieved to powder. The powder was used as nutrient a for protease production by Bacillus brevis. The fermentation conditions were optimized by studying the effect of various parameters, namely substrate concentration, innoculam size, pH, rpm, and temperature in batch cultivation technique. The maximum production of protease enzyme using ossein waste was found to be 366.3U/ml at 72h for a substrate concentration of 3.5%, 7pH and 130rpm at 350C. Copyright © 2009 The Berkeley Electronic Press. All rights reserved.