Abstract

Jumbo squid wastes represent an important source of B-chitin, which recently has been studied for its properties and potential applications. B-chitin is characterized for chains in parallel fashion with weaker intermolecular interactions than B-chitin. Therefore B-chitin is more soluble in common solvents as well as it display higher reactivity for deacetylation and chemical modification than B-chitin. Preparation of B-chitin was carried out by chemical method that involved demineralization (DM) with HCl, followed by deproteinization (DP) with NaOH. Dosidicus gigas pen was used in several particle sizes. Distilled or tap water were used for all the processes and their effect was compared on the basis of products qualities. Protein was fully removed from squid pen by using NaOH concentration of 2M at 25ºC. Particle size was a significant factor for DM, however it was non significant for DP. The yields of B-chitin and chitosan obtained were 32% and 20% and water expenses were 0.3 L/g and 2.8 L/g, respectively. The chitosan produced was highly soluble in acidic water (95%) with molecular weight (Mv) of 534.17 g/mol and degree of acetylation of 26%.

Keywords

B-chitin, Dosidicus gigas, jumbo squid, chitosan, deproteinization, demineralization.