**Extraction, Characterization and Physico chemical properties of chitosan derived from fish scales**

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All fish processing industries generate different types of wastes. Fish processing plants produced solid waste like bones, shells, skin, head and meat. These wastes causes severe pollution in coastal areas and contaminate environment. Marine environment surrounding these sites is at risk for oxygen depletion, harmful algae blooms, and other harmful effects. Chitin is the second most abundant polysaccharide in nature after cellulose and crab, shrimp and krill shells as well as fish scales are the best source of chitin. Chitosan is prepared by alkaline N-deacetylation process of fish (Labeo rohita) chitin. The present work is mainly focused on phsico-chemical and antioxidant properties of fish scales chitosan and characterized by XRD, SEM, FTIR, TGA, Elemental analysis . The degree of deacetylation (DD) value of fish scales and commercial chitosan was found at 80% and 84% respectively. FBC (Fat bound capacity) of Fish chitosan and commercial chitosan was 226% and 446% respectively. Structural differences between α- chitin from fish scales were studied. FTIR spectra revealed the detailed structure of α- chitin in the region of O-H, N-H and CO stretching region. FTIR spectra was used to determine the chitosan DD value. The DD value, solubility, FBC, water binding capacity and yield of chitosan indicated that fish scale waste is a good source of chitosan.