GELATIN EXTRACTION FROM SILVER CATFISH *(PANGASIUS SUTCHI)* SKIN AND DETERMINATION OF ITS FUNCTIONAL PROPERTIES

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ABSTRACT

GELATIN EXTRACTION FROM SILVER CATFISH (*Pangasius sutchi*) SKIN AND DETERMINATION OF ITS FUNCTIONAL PROPERTIES

Silver catfish (*Pangasius sutchi*) skin gelatin was extracted to determine the effects of extraction time on the functional properties of the gelatin produced. Silver catfish skin gelatins were also compared with commercial bovine gelatin in terms of solubility, protein solubility as a function of pH and sodium chloride concentration, emulsifying capacity and stability, water holding capacity, fat binding capacities and foaming properties. Silver catfish skins were washed in sodium chloride (NaCl) solution prior to pre-treatment in sodium hydroxide (NaOH) solution and acetic acid solution. Then, the skins were extracted at 50 °C for 6, 8, 10 and 12 hours extraction times and the extracted gelatins were freeze dried. Silver catfish skin gelatins extracted for 12 hours were higher in emulsifying capacity (52.63%), emulsifying stability (47.83%), water holding capacity (31.78 mL/g), fat binding capacities (54.76), foaming capacity (41.47 mL) and foaming stability (56.42%) than gelatin extracted at other extraction time. Commercial bovine gelatin was more soluble than silver catfish skin gelatin (63.41%). The extraction of silver catfish skin gelatin at 50 °C for 12 hours is more effective than extraction at 6, 8 and 10 hours. The longer the extraction time, the better are the functional properties of the gelatin. The different functional properties of commercial bovine gelatin compared to silver catfish gelatin could be due to differences in manufacturing method. Based on its good functional properties, silver cafish skin gelatin may be useful in food applications such as soups, sauces and gravies.