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Physico-chemical and functional properties of gelatin from Surimi processing byproducts (Refiner discharge)

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Surimi processing industries generate large quantities of waste of which refiner discharge is of one kind. Gelatin extraction from such waste has not been attempted widely. Gelatin was extracted from pink perch (*Nemipterus japonicas*) surimi refiner discharge and its physico-chemical and functional properties were studied. The gelatin yield was 15.86 % on dry weight basis. The bloom strength, viscosity and melting point of the refiner discharge gelatin were recorded as 147.9 g, 7.44 cP and 25.5°C, respectively. The refiner discharge gelatin is rich in glycine followed by glutamic acid, proline and alanine. The gelatin has high intensity of β - and α -chains as the major components. Emulsifying capacity and emulsion stability of gelatin were 50.77% and 50.44%, respectively; indicating the extracted gelatin from refiner discharge had strong emulsion stability. The refiner discharge gelatin was also found to have good foam expansion of 38.45 %. It can be concluded from the present study that fish surimi refiner discharge can be a potential source for gelatin production. Byproducts like refiner discharge have added advantage of avoiding the seggration problem of solid waste into skins, scale and bones before the extraction of gelatin.

Key Words : Refiner discharge, Gelatin, Physico-chemical, Functional, Waste

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