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Obtaining of protein hydrolysates of caviar pollock and study of their functional properties

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Abstract

Currently, one of the most promising areas of scientific and technological development of the fishing industry is the development of complex resource-saving technologies of processing marginal fish raw. The purpose of this work was the selection of conditions for obtaining protein hydrolysates from caviar Pollock and the study of their functional properties. The result of the research justified by the technological regimes of obtaining of protein products based on fat-free caviar Pollock. The advantage of enzymatic hydrolysis compared to acid to extract the protein was shown. The conditions of enzymatic protein hydrolysis of defatted calf Pollock substrate concentration of 100 g/l, the activity protosubtilin – 3 u/g substrate, temperature – 45 °C, pH – 6.3 were chosen. Studied the functional properties of protein preparations on the basis of defatted calf Pollock. The conditions chosen for the separation of protein hydrolysate of defatted caviar Pollock into high molecular and low molecular fraction using ultrafiltration membrane UPM-10. It was shown that the protein hydrolysate of defatted calf Pollock, as well as high molecular and low molecular fraction of the hydrolysate are not acutely toxic. It is shown that all the drugs have higher emulsifying capacity compared to the known protein products based on vegetable and animal protein. The obtained results allow to recommend the complex processing of caviar of low value fish species with the aim of obtaining competitive products with high added value.

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