Optimization of enzymatic hydrolysis of visceral waste proteins of beluga *Huso huso* using Protamex

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Abstract

Fish protein hydrolysate (FPH) was produced from the viscera of beluga (*Huso huso*). Hydrolysis conditions (enzyme activity, temperature, and time) were optimized using response surface methodology (RSM). Lack-of-fit test revealed a non-significant value for the model, indicating that the regression equation was adequate for predicting the degree of hydrolysis under any combination of the variables (*P* < 0.05). The optimum conditions to reach the highest degree of hydrolysis were: 39.21 °C, 114.2 min, and a protease (Protamex) activity of 27.41 AU/kg protein. The amino acid composition of protein hydrolysates of beluga in optimum conditions showed a high nutritional value of protein hydrolysates from beluga viscera.

Keywords: Fish protein hydrolysates, Beluga visceral protein, Protamex, Optimization, RSM

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