STUDY TO DETERMINE THE MODE OF FREEZING PROCESS OF TUNA (THUNNUS OBESUS) FILLET

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Summary
The aim of the study was to determine the technology mode of freezing process of Tuna (Thunnus obesus) fillet, after-freezing products are the best quality and last longer for commercial use and export (the weight loss of the after-melting of freezing product is at the minimum level, and the frozen product temperature reaches to optimal temperature while the inside product water will be completely crystallized). The experiments were carried out to establish the relationship between the temperature of Tuna (Thunnus obesus) fillet of final freezing process $Y_1$ (°C), the loss of mass of frozen Tuna (Thunnus obesus) fillet after melting $Y_2$ (%) with temperature of freezing chamber of $Z_1$ (°C), freezing time of $Z_2$ (h) and the size of Tuna (Thunnus obesus) fillet based on the standard (150x300x20 mm). On this basis, the optimal problem to describe the freezing process of Tuna (Thunnus obesus) fillet was also built. While solving the optimal problem, the technology mode of freezing process of Tuna (Thunnus obesus) fillet was found out, as follows: The temperature of freezing chamber $Z_1 = -42.5$ °C, the freezing time $Z_2 = 2.12$ h. When the freezing process of Tuna (Thunnus obesus) fillet was carried out following this technology mode, then temperature of Tuna (Thunnus obesus) fillet at final freezing process was $Y_1 = -22.5$ °C and the loss of mass of frozen Tuna (Thunnus obesus) fillet after melting was $Y_2 = 3.1%$. Therefore, Tuna (Thunnus obesus) fillet at final freezing process have good quality.

Keywords: Freezing, Tuna (Thunnus obesus), the optimal freezing process, freezing Tuna (Thunnus obesus) fillet, the optimal freezing process of Tuna (Thunnus obesus) fillet.