

INFLUENCE OF BRINING AND FROZEN STORAGE ON QUALITY CHANGES IN THE MUSCLE OF SNAKEHEAD FISH AT POST-MORTEM STAGES

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Summary

The objective of the study was to determine the post-mortem status of snakehead fish and the effect of brining on maintaining the quality of frozen fish meat ($-18 \pm 2^{\circ}\text{C}$). In this experiment, snakehead fishes weighing $500 \div 800$ g were processed in complete whole (removal of viscera, fins, scales) and fillet fish with skin (bone separation), storage at cold temperature ($0 \div -2^{\circ}\text{C}$) to help fish reach different biochemical stages (pre-rigor, in-rigor and post-rigor). The fish in three stages after harvest were frozen to a central temperature of -18°C and transferred to frozen storage at the same temperature ($-18 \pm 2^{\circ}\text{C}$). The results show that filleted fish before freezing helped to remove more residual blood, thereby improving the visual colour and water holding capacity of fish muscle. Frozen storage fish in all three stages of biochemical changes together with two treatment conditions: freshly or soaked in NaCl 12% (3 hours) can be preserved for a minimum of 12 weeks. Quality parameters such as moisture content (%), color (L^* value), compression force (g_f), water holding capacity (%) and NH_3 (mg/100 g) were not significantly different after 12 weeks while total viable count (cfu/g) at allowable limits. Post-rigor fillet is the most suitable material for preliminary processing and preservation. In addition, freezing fish in the pre-rigor stage should also be considered because the quality parameters do not differ significantly when compared to those in the post-rigor stage.

Keywords: *Biochemical changes, brining, frozen storage, snakehead fish, quality.*