

عنوان مقاله:

Antioxidant effect of ascorbic acid on the quality of Cobia (*Rachycentron canadum*) fillets during frozen storage

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خلاصه مقاله:

The effect of aqueous solutions of ascorbic acid (AA) on the rancidity development in Cobia (*Rachycentron canadum*) fillets during frozen storage was studied. Cobia fillets were treated with ascorbic acid (AA 0.25% and AA 0.5%) then stored at -18°C up to 6 months. Rancidity development was measured by several biochemical indices including free fatty acids (FFA), peroxide value (PV), and thiobarbituric acid (TBA) and complemented by the sensory analysis (odor, consistency and appearance). In addition, pH and expressible moisture (EM) were measured during 6 months storage. Proximate composition was also determined in the first day. TBA, PV and FFA levels increased on all treatments due to lipid oxidation. Ascorbic acid showed antioxidative effect on Cobia fillets during frozen storage as indicated by TBA, PV and FFA levels. Results showed that free fatty acid, primary and secondary oxidation products, EM and pH value of AA- treated samples were significantly lower than those of the control samples ($P < 0.05$). A gradual decrease ($P < 0.05$) in sensory analysis were observed as the storage time increased. Results of our investigation revealed that ascorbic acid retarded oxidative changes in frozen Cobia fillets whereas AA 0.25% was not as effective as AA 0.5% on oxidative stability. Best oxidation inhibition results on fish fillets were obtained when employing a 0.5% AA solution.

کلمات کلیدی:

Cobia, Lipid oxidation, Ascorbic acid, Frozen storage

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