The Effects of Lipid Peroxidation and Storage Conditions on Keeping Quality of Snake Head Fish (*Channastriata*)

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The experiment was conducted to determine the progression of lipid peroxidation and the effects of it on Snake head fish (*Channastriata*) stored at -10^{0}C for 28 days. Fish were harvested from Victoria reservoir and transported to the lab under ice. After removal of skin, epaxial muscles were taken as samples and wrapped in pieces of aluminum foil, sealed in polythene sacs, and stored at -10 ^{0}C until used. They were evaluated for Thiobarbituric Acid Reactive substances (TBAR) using distillation method as a peroxidation indice and for Salt Soluble Protein (SSP) to evaluate variation of protein contents on day 0, day 7, day 14, day 21 and day 28 and a SDS PAGE was performed to determine the effects on individual protein levels. The experiment was repeated four times each with three replicates and the data were statistically analyzed using Minitab 14.

The amount of TBAR in each sample of each experiment had increased gradually from day 0 (0.3613 ± 0.1174 mg/kg) to day 28 (0.5154 ± 0.0810 mg/kg) and the increment of all experiments were significant ($P<0.05$). On the other hand SSP contents decreased gradually from day 0 (7.653 ± 0.338 mg/g)to day 28 (1.3633 ± 0.0723 mg/g) and found to be significant ($P<0.05$). There was a significant negative co relationship between increment of TBAR and reduction of SSP contents ($R^2>0.8$). With the day 0 of SSP extract 16 protein bands were observed and five bands were identified.

Increment of TBAR contents was indicative of continuous lipid peroxidation in Snake head fish stored at -10 ^{0}C for 28 days. The reduction of SSP indicated the gradual deterioration of the muscle protein quality. The negative co relation between two parameters demonstrated deleterious effect of peroxidation on protein quality.

Key words: Snake Head fish (*Channastriata*), Lipid peroxidation, Salt Soluble Proteins