

Effect of packaging environment on quality changes of smoked Spanish mackerel under refrigeration

ABSTRACT

A study was conducted on smoked Spanish mackerel packed in polyamide under atmospheric (control), low-oxygen and vacuum environments under refrigeration (5C). Quality changes were observed for a duration of 12 weeks. Moisture contents and thiobarbituric acid reaction substance (TBARS) values of all samples were significantly ($P < 0.05$) increased while textural firmness gradually decreased during refrigerated storage. The samples turned darker in all packaging environments. Microbial counts increased during storage. The result from sensory evaluation showed that all samples were still acceptable in all attributes studied after 12 weeks of storage; however, samples in low-oxygen and vacuum packaging environments were significantly more desirable in terms of saltiness, smoked flavor and overall acceptability compared with atmospheric packaging.

Keyword: Smoked Spanish mackerel; Packaging environment; Quality; Under refrigeration