

convenient foods and it is highly recommended to screen the presence of *C. botulinum* in fish and fish products.

SF PO 36

Biopreservative effect of *Lactobacillus plantarum* for shelf-life extension of *Nemipterus japonicus* mince during chilled storage

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Biopreservation is a natural preservation technique where controlled microbiota of certain Lactic acid producing bacteria and /or its antimicrobial peptides is used for the extension of shelf life as well as enhancement of food safety. In this study, biopreservative effect of *Lactobacillus plantarum* (ATCC 8014) on biochemical and microbiological parameters of *Nemipterus japonicus* (Japanese threadfin bream) mince was assessed. Fish mince was added with 1% glucose. Fish mince (100 g) was packed in sterile polyethylene bags and inoculated with *L. plantarum* of 10⁴ CFU/ml. Samples were stored in chilled condition (2°C). No significant changes were observed for TVBN between control and inoculated samples upto 11th day. Thereafter, a significantly higher TVBN (28 mg%) was observed for control samples compared to only 21 mg% for inoculated samples on 15th day indicating a sign of spoilage for control samples. PV and TBARS values were in the permissible limit in both cases during the entire storage period. There was a decrease of one log CFU/g and 02 log CFU/g in the count of Aerobic Plate Count (APC) and *Pseudomonas* count respectively, and increase of LAB count was found after 3rd

day of storage for inoculated samples. The APC count reached to rejection level on 15th day in the inoculated samples whereas the control became unacceptable on 11th day of storage. Results suggest that *L. plantarum* can be considered as a preservative agent during chilled storage of *N. japonicus* mince to enhance its shelf-life.

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Freshness assessment and grading of commercially important finfishes (*Scomberomorus commerson*, *Eetroplus suratensis* and *Sardinella longiceps*) based on pictorial, sensory, biochemical and microbiological evaluation in chilled storage

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European Union insists on sensory grading of fish species prior to export and competent authority of each exporting nation need to have a sensory scheme for grading aquatic species based on freshness. The objective of the study was to evaluate the quality based on sensory grading of three species namely, *Scomberomorus commerson*, *Eetroplus suratensis* and *Sardinella longiceps* during chilled storage as per EU scheme (EC Regulation 2406/96). Photographic evidence during the stages of progressive loss of freshness was documented, which was supported by evaluation of incremental changes in biochemical (TVBN, TMA & TBA content), microbiological (mesophilic bacterial count, psychrophilic bacterial count, *Pseudomonas* and H₂S producers count) and gradual loss