

by physical, chemical and sensory evaluations. Moisture content, NPN and Sarcoplasmic protein showed a decreasing trend, whereas total protein content increased in all the treatments during frozen storage. pH values showed an increasing trend during the storage study in all the treatments. TMA-N, TVB-N, Peroxide value and Thiobarbituric acid value showed increasing trends in all the treatments during the storage study, however all the values were well within the acceptable limits. There was a significant decrease in the hardness, cohesiveness springiness and chewiness in all the treatments during the storage. The final lower value of hardness was recorded in T3 indicating that serving of skeletal muscle in pre-rigor stage resulted in the better textural properties. Values of a^* and b^* showed a decreasing trends during storage indicating greenish and bluish colouration. Colour parameters showed significant differences ($p < 0.05$) as storage progressed. Sensory score showed a decreasing trend with the storage reaching to the final value of 6.38. However the shrimps were still acceptable six months of storage supported by the sensory score. Lack of significant differences among different treatments indicate that initial differences in quality due to severing of skeletal muscle in different stages of rigor, get neutralised during the length of storage.

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Drying characteristics of shrimp (*Metapenaeus dobsoni*) in electrical dryer

D.S. ANIESRANI DELFIYA*, P.V. ALFIYA, S. MURALI, MANOJ P. SAMUEL
ICAR-Central Institute of Fisheries Technology, Kochi, Kerala, India; *delfy.lenin@gmail.com

Dried shrimp is one of the most important high value fishery products and it is commonly dried in open sun for 3 to 5 days. Drying of shrimps in a closed chamber is the best approach to avoid contamination by dust, dirt, birds, animals and spoilage due to rain, wind, moisture which are associated with open sun drying. In this study, an electrical cabinet dryer is used to investigate the drying characteristics of shrimp (*Metapenaeus dobsoni*). Shrimps were dried from the initial moisture content of 79–80% (wb) to the final moisture content of 38–40% (wb). Experiments were carried out at the drying air temperature of 55°C and the air velocity of 0.8 m/s. Moisture content of shrimp was decreased with drying time and drying process occurred at falling rate drying period. Drying rate was decreased continuously with drying time. Moisture ratio vs drying time graph has been plotted and various drying models were fitted for describing the drying kinetics of shrimps in electrical dryer. Drying models were compared by calculating R^2 , root mean square error and p values to obtain a best fit model which gives better agreement to the drying data.

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Study of drying characteristics of Indian mackerel (*Rastrelliger kanagurta*) in CIFT solar-electrical hybrid dryer

S. MURALI *, MANOJ P. SAMUEL, K. SATHISH KUMAR, V.A. MINIMOL

ICAR-Central Institute of Fisheries Technology, Kochi, Kerala, India; *muralibte21@gmail.com

Fresh Indian mackerel (*Rastrelliger kanagurta*) was thoroughly washed, eviscerated, cut into butterfly style and salted overnight with dry salt (salt : fish, 1:3). The salted mackerel was dried in a solar-

electrical hybrid dryer at the air temperatures of 45–55°C, relative humidity of 66–80%, and air flow rate of 0.60–0.80 m/s. The solar radiation ranged between 86 and 750 W/m² during the time of experimentation. To maintain the optimum drying temperature, supplemental heating was provided by two electrical coils of 1500 W each in addition to the solar heat energy. The initial moisture content of the salted mackerel was 61.5% (w.b.) and reduced to the final moisture content of 31.8% (w.b.) during drying. Drying curves like Moisture content vs Time, Drying rate vs Time and Moisture ratio vs Time were plotted. The moisture content was gradually decreased with drying time and taken 8hrs for complete drying. The entire drying process was observed to be occurring under falling rate drying period. The dried mackerel fish was evaluated for various quality parameters and observed to be within the acceptable limit. Various drying models were applied and the coefficients of determination (R^2) and constants (χ^2 value, and RMSE value) were evaluated by non-linear regression to estimate the drying curves of dried mackerels.

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Quality evaluation of lipid from Itoyori surimi wash water: A comparative study on different extraction process

V. RENUKA^{1*}, A.A. ZYNUDHEEN², G.K. SIVARAMAN², C.N. RAVISHANKAR²

¹Veraval Research Centre of ICAR-Central Institute of Fisheries Technology, Veraval, Gujarat, India; ²ICAR-Central Institute of Fisheries Technology, Kochi, Kerala, India;
*renukavi@gmail.com

The disposal of fish processing waste is the major issue due to the negative environmental impact. Hence the utilization of fish processing waste in an efficient way is gaining importance. Surimi industries

discharge huge quantity of wash water to the environment as waste, which contain several bioactive compounds such as lipid, protein and peptides. The present study was intended to analysis the extractability and quality of lipid from surimi wash water using different extraction process viz. heat extraction and Bligh and Dyer method. The quality of lipid extracted by the above methods was evaluated by free fatty acid, peroxide value, anisidine value and tototox value analysis. The higher yield was reported in heat extraction method. Heat extraction showed adverse quality changes compared to Bligh and Dyer method and it might be due to the high processing temperature which causes lipid oxidation. In fatty acid analysis, heat extracted lipid showed the high content of saturated fatty acid compared to unsaturated Fatty acid. Palmitic Acid was the major saturated fatty acid which occupies 56.9% of total saturated fatty acid. The most abundant unsaturated fatty acid was Docosahexaenoic acid (DHA), about 25.9% of total unsaturated fatty acids. EPA reported 12.2% of total unsaturated fatty acid.

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Biochemical quality of frozen cuttlefish (*Sepia pharaonis*, Ehrenberg 1831) treated with food grade commercial chemicals

M. MURUGANANTHAM*, D.K. VIKAS, D. SUKUMAR, M. MUTHU ABISHAG

Fisheries College and Research Institute, Tamil Nadu Fisheries University, Thoothukudi, Tamil Nadu, India;
*julietmuruganantham@gmail.com

Cephalopods (including cuttlefish) are highly perishable like fishes and crustaceans and hence, require suitable treatment to maintain the quality for export. However, the information on the