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A study was undertaken to assess the freshness of Pink ear Emperor, *Lethrinus lentjan*, a commercially important exportable fish from the Tuticorin coast of India, held in ice by quality index method (QIM) in comparison with major physical and biochemical quality characteristics. A new QIM was developed for this species taking three parameters viz. body, eyes and gills with various attributes to derive a total score of 25. Pink ear emperor was found to be fresh for only 7 days in ice. An average QIM score of 15 was considered as the limit of acceptability. Average freshness scores determined by Freshness Tester in dorsal, ventral and caudal regions indicated that spoilage occurred faster in caudal region with a score of 7.2 on day 7. Compressibility hardness was initially high (5.7 µPa) in dorsal, but diminished faster to 1.63 µPa after rigor in day 7. Autolytic activity was higher (386.34 nmolTyr/g/h) in ventral region, while lipid hydrolysis was dominant (4.2% as Oleic acid/g fat) in caudal region in day 7. When QIM score was < 15, freshness score was >7 in caudal, and hardness value was >3 in dorsal regions. Quality control inspectors shall therefore employ the developed QIM at the field level for assessing the freshness of pink ear emperor.

SF PO 30

Quality changes in ice stored farmed and wild shrimp

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Shrimp is a seafood that is popular worldwide for its delicacy and nutritious quality. Shrimp remains the most preferred item in export market and a major foreign export earner to the nation. In the current study, the changes in freshness of Farmed shrimp (*Litopenaeus vannamei*), and wild shrimp (*Penaeus monodon*) stored in ice were evaluated periodically using freshness tester, Quality Index Method, K value and pscychrophilic count. The initial average QIM score was 2.6, and 5.5 in farmed and wild shrimps on day 0, and the maximum score was 8.6 and 8.3 on the final day (14 days) of storage. The initial average freshness score was 11.86 and 10.6 in farmed and wild shrimps, which gradually declined to 6.9 and 6.6 on the final day of storage. The K value increased from 19.654 to 69.413% in farmed shrimp and from 13.01 to 56.54% in wild shrimp. The initial bacterial count of *Litopenaeus vannamei* and *Penaeus monodon* were $3.30x10^2$ and $3.20x10^2$. The psychrophilic count of *Litopenaeus vannamei* was $2.51x10^6$ and *Penaeus monodon* was $1.28x10^6$ on the day of rejection. From this study it can be inferred that the increase in K value and psychrophilic count correlated with the increase in QIM score and decline in freshness score and freshness tester can be used at field level to check the quality of shrimps.

SF PO 31

Preparation of pictorial guideline for freshness of commercially important finfish and shellfish *(Sphyraena jello, Octopus vulgaris, Trichiurus lepturus, Pampus argenteus, Chirocentrus dorab)* based on sensory and biochemical indices under chilled storage

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For the export of fish or seafood commodities to EU countries the European Union council has laid down common marketing standards for fishery products. The major share of Indian export to EU countries is unprocessed and marketed chilled or frozen. Their quality is mainly determined by the freshness which is assessed by sensory and organoleptic examinations. The present study is based on the objective of developing pictorial guidelines depicting the freshness of seafood commodities on the basis of different freshness indicators. Under the study, freshly landed cephalopods and finfish species *Octopus vulgaris*, *Sphyraena jello, Trichiurus lepturus, Pampus argenteus, Chirocentrus dorab* were collected from landing center and brought to the laboratory under iced condition and stored at 2^0C (chilled storage). The seafood samples were evaluated daily for its quality and categorized as per EC regulations like extra fresh, A or B on the basis of organoleptic examinations viz. Skin color, pigmentation, color of mucus, shape and colour of the eyes, colour of peritoneum, colour of gills, firmness of flesh, odour etc.. The organoleptic parameters were then validated with different biochemical indices like pH, TMA, TVB-N, TBA, etc. The visual changes in quality indicators are also documented in pictorial forms. The result of the organoleptic study reveals that most of the species studied remains extrafresh under chilled condition for 2-3 days and gradually quality shifts from A to B grade on 3rd to 5th day.The biochemical indices is also in agreement with the sensory and organoleptic observations.The final outcome of the study is a systematic pictorial guideline of sensory qualities of finfish and cephalopods which can be used as a reference for policy makers and stakeholders.

SF PO 32

Comparison of phenotypic and genotypic methods for characterization of MRSA isolated from seafood and aquatic environment

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Methicillin resistant *Staphylococcus aureus* is generally regarded as significant pathogen of clinical importance. Numerous methods have been developed and employed for the characterizing or sub-typing of MRSA from human and animal infections. However, there are limited studies on comparison of different methods for differentiation of strains of MRSA from seafood and aquatic environment. In this study various typing methods were employed to evaluate their discriminatory power to differentiate on 65 MRSA isolated from seafood and aquatic environment by calculation of the index of discrimination (D). The methods employed included antibiotic resistance pattern, virulence factors profiling (VF profiling), accessory gene regulator typing (*agr* typing), staphylococcal cassette chromosome *mec* element typing (SCC*mec* typing), staphylococcal protein A typing (*spa* typing) and multilocus sequence typing (MLST). The study revealed that the antibiotic resistance profiling had the highest discriminatory index (*D)* of all methods