

reducing agents was ruby red colour and the maximum absorbance (λ_{max}) was between 517 to 528 nm. AuNPs were exposed to frozen storage condition (-20°C) and evaluated for its characteristics. UV-visible spectrum for AuNPs prepared using TSC and lower concentration of chitosan (0.1 and 0.2%) showed a distinctly different broader spectrum with reduced peak intensity. Peak shifting towards right was also observed. This could be due to the aggregation of AuNPs in frozen condition. The ruby red colour of the AuNPs changed to slightly greyish upon exposure to frozen condition for TSC and lower concentration of chitosan (0.1 and 0.2%) indicating its application as smart packaging to distinguish packed fresh and frozen fish.

SF PO 26

Prevalence of *Listeria* spp. from shrimp culture environment in Karnataka

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Shrimp continues to be the largest single commodity in terms of value, accounting for about 15 % of the total value of internationally traded aqua products in 2012. The presence and spread of human pathogens through aquatic food has become a major hazard. Food borne bacterial pathogens are the principle cause of foodborne illness, product rejection and detention in the international market. The bacteria *Listeria* spp. has been implicated in product detention and infections with these bacteria are currently associated with fatality worldwide. *Listeria* is Gram positive, non-spore forming, facultative anaerobic and

psychrotrophic bacteria that are widely distributed in nature. The bacteria are indigenous to the marine and estuarine environments. In the present study, prevalence of *Listeria* spp. from shrimp culture environment in Karnataka was studied. A total of 151 samples from shrimp culture environment such as shrimp, water, feed and sediment were collected and checked for the presence of *Listeria* spp. Though the *Listeria*-like colonies were isolated from samples, they were proved to be negative when subjected to PCR confirmation. Further, gene sequencing of isolates confirmed the absence of *Listeria*. Hence, the present study presumes that the *Listeria* spp. is not a hazard in shrimp culture environment of Karnataka.

SF PO 27

Microbial quality assessment of commercially available dried fishes of Gujarat

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The present study was carried out to assess the microbiological quality of traditionally dried and commercially available fish such as Eel (*Congresox talabon*), Croaker (*Otolithes cuvieri*), Gold spotted anchovy (*Coilia dussumieri*), Bombay duck (*Harpodon nehereus*), Greater lizard fish (*Saurida tumbil*), Ribbon fish (*Lepturacanthus savala*), Horse Mackerel (*Megalaspis cordyla*) and Cat fish (*Arius dussumieri*) collected from in and around Veraval fish market, Gujarat during the summer months of March to June, 2016.

Microbial quality parameters such as TPC, *E.coli*, Staphylococci, Fecal Streptococci, Salmonella, Vibriosis, *Listeria monocytogenes*, Total fungal and yeast count were analysed. The TPC ranged between 1.2×10^2 to 2.35×10^5 cfu.g⁻¹. Total fungal and yeast count were found within the acceptable limit of TPC except in Bombay duck dry fish samples, wherein the count was TNTC and was exceeded the acceptable limit of 5,00,000 cfu.g⁻¹. Moreover, there was no pathogenic bacterium such as *E.coli*, coagulase positive *S.aureus*, catalase negative group *D. Streptococci*, *Salmonella*, *Vibrio cholerae*, *V.parahemolytica* and *L.monocytogenes* were found among these dried fish samples. The fungal counts were noticed in all the dried fish samples with ranged between 4.0×10^1 to 9.6×10^3 cfu.g⁻¹ in Dichloran Rose Bengal Chloramphenicol Agar (DRBC Agar) and the fungal species were belong to the Aspergillus, Penecillium, Mucor and Rhizobus species. Majority of the fungal species are mainly of Aspergillus species. The Gold spotted anchovy and Bombay duck dry fish samples also contains the total yeast counts of <10 cfu.g⁻¹. The present investigation revealed that the overall microbial acceptable quality of dry fish samples prepared under traditional sun drying method was good and the quality should be maintained further by proper packaging and storing of the dry fish samples until reach the consumers.

SF PO 28

Prevalence of extreme halophiles in fermented fish products

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Fermented fish products are a part of traditional cuisine of South East Asia, Middle East and Africa. They are of becoming increasingly popular in the developed world because of their high nutritive value, organoleptic characteristics, and easy digestibility. Halophiles are a type of extremophilic organisms that thrive in high salt concentrations. In the present study, a total of 29 salt fermented fish samples such as Lona ilish, salt fermented mackerel, anchovies, seer fish, pomfret, etc. were procured from different parts of India. These samples were analyzed for the presence of extremely halophilic microorganisms through conventional culture based system in two different halophilic medium, followed by an incubation period of 2-3 weeks at 30°C and their identities were confirmed by 16SrRNA amplification. Out of 456 isolates, 292 and 164 were confirmed to be halophilic archaea and bacterial isolates respectively. They grew optimally at salt concentrations between 20 and 30% and did not grow below 15% salts. Thus, these isolates are among the extremely halophilic organisms. All samples had higher prevalence of halophilic archaea in comparison to bacteria. This study highlighted the fact that extremely halophilic archaea have a potentially important role in the fermentation process as they consisted the major flora of salt fermented products, hence necessitating further investigations.

SF PO 29

Quality index method (QIM) for the commercially important fish, *Lethrinus lentjan* of southern peninsular India in comparison with physical and chemical quality characteristics