

peaks of OH, NH, and antioxidant phenolic groups of melanin pigment. Elemental composition of melanin was found to be identical to human skin melanin. The antioxidant properties of melanin using *in-vitro* model assays indicated higher antioxidant power compared to BHA and BHT. Hence, antioxidant efficacy was further ascertained in a model vegetable oil system (coconut oil), under accelerated storage environment. The results indicated better oxidative protection at 0.5%, as confirmed by fatty acid profile and lower FFA, PV and TBARS values. Oil containing 1% melanin showed similar oxidative progress as that of control samples, during storage. In brief, the results of present study identifies marine melanin as a prospective photoprotective and anti-oxidative moiety suitable for incorporation in cosmetic and food formulations.

AV OR 16

Chilled storage studies of coated products developed from pacific white leg shrimp (*Litopenaeus vannamei*, Boone, 1931) and their shelf life evaluation

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L*itopenaeus vannamei* is the most commonly cultured shrimp in Southeast Asia and Latin America, standing for over 90 % of total shrimp production. In India, the total production of vannamei shrimp reached 4,06,018 MT in 2015-16 recording an increase of 52,605 MT from the previous year (3,53,413 MT) and contributing about 81% of the total aquaculture production. Shrimps are the major export items in the

form of raw frozen, cooked frozen, IQF etc. This study is an attempt to reconnoiter the potentials of better utilization of this species by development of battered and breaded products. Quality evaluation and shelf life studies were conducted for the products developed from farm caught *L. vannamei* under chilled storage. Shrimps were cleaned in two styles (butterfly and peeled deveined), and it is battered, breaded, flash fried, packed and stored (2°C). The products were evaluated for the physical, chemical, sensory and microbiological quality attributes. There was a significant decrease in the sensory scores during storage, and levels of other quality indices increased significantly for both the products. The total aerobic plate count did not exceeded 5 log 10 CFU/g during the 15th day of the study. Coated butterfly and coated P.D. shrimps had a good shelf life of 15 days in chilled storage.

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Waste to shelf: A value chain approach for fishery waste management

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Fish used as human food accounts for 78% of the total fish catch in developed and developing countries, leaving about 21% for non-food uses. During processing operations generally the fillets are retained while the bulk of product (upto 70%) is discarded in the form of skins, bones, scales, viscera, head etc. This indicates, a minimum of 4 MT of fishery waste has been generated every year, even though it is scattered in the domestic and industrial sector. Disposal of process discard is a major constraint in seafood industry as these discards are easily perishable and often invites public resistance