

compared to hilsa muscle which contains moisture 68.5% and fat 10.5%; however, the protein content was similar (21-23%). Hilsa roe was also found to be rich in essential amino acids and omega (ω)-3 polyunsaturated fatty acids (PUFAs) eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Thus, hilsa roe is highly nutritious, an excellent source of PUFAs and should be useful as ω -3 PUFAs (EPA+DHA) supplements.

AV OR 46

Nutritional compositional analysis of selected Chilika fishes: Implications in post-harvest value addition

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Chilika lagoon is blessed with a huge number of flora and fauna due to its unique assemblage of marine, brackish and fresh water ecosystem. Traditionally the fishes of Chilika have high consumer preference and huge market demand both in domestic and international market owing to its taste, flavour and other culinary properties; however the nutritional information on fishes of Chilika are scanty. The present study was carried out to determine the nutritional composition of some important food fishes from Chilika. Fish samples *Mugil cephalus* (250 to 600 gm); *Etroplus suratensis* (100 to 150 gm); and *Penaeus monodon* (50 to 75 gm) were collected from different landing centres nearby of Chilika lagoon and brought to laboratory for analysis. Gross chemical composition revealed that higher protein

23.78 % was found in *M. cephalus* compared to *E. suratensis* (17.1%) and *P. monodon* (16.45 %). Similarly, the ash (mineral) content was also higher in *Mugil cephalus* (1.49 %), than *E. suratensis* (1.35 %) and *P. monodon* (1.23 %), while low fat content has been observed in *E. suratensis* (1.47 %) followed by *M. cephalus* (1.25 %) and *P. monodon* (0.76 %). Earlier reports showed that *Etroplus suratensis*, *Penaeus monodon*, *Mugil cephalus* obtained from southern India contained crude protein (20.4%, 14%, 19%), crude fat (4.7%, 6%, 1%) and crude ash (1.4%, 3%, 3%) respectively. The study showed that *M. Cephalus* of Chilika is significantly higher in crude protein.

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Illeal digestibility assay of broiler chicks fed with soybean meal and fish silage as protein supplement in poultry diet

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Fish silage was prepared from fish waste collected from in and around Mangalore city. Formic acid and propionic acid were added in 1:1 ratio to the waste at 3% of the biomass. Liquefied fish silage was mixed with crushed corn in a ratio of 85:15 and dried at a temperature of 40°C in solar drier. Separate diet was prepared where soybean meal and another diet with dried fish silage which represents the main protein supplement respectively. Titanium dioxide was added as a indigestible marker. Around 20 numbers of the day old cobb 500 strain of broiler chicks were purchased. Till 19th day all birds were fed with commercial feed and then fed with prepared diet till 23rd day. On

23rd day birds were starved for one hour and then fed for two hours to ensure sufficient gut fill for digesta sample collection. Birds were then killed, following dissection of the lower small intestine, digesta sample was gently flushed with distilled water and collected into a collection vessel. The digesta sample was then analyzed for ileal digestibility assay in order to compare the amino acid digestibility of both diet. Soybean sample and fish silage sample were also subjected to amino acid analysis. Coefficient of apparent amino acid digestibility was calculated which clearly showed the highest digestibility of amino acid had occurred for fish silage diet and lowest for soybean diet. The presence of anti-nutritional factors in soybean meal such as trypsin inhibitors is responsible for lower digestibility.

AV PO 01

Quality assessment of microencapsulated DHA fortified nutritional supplement

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Microencapsulated ω_3 poly unsaturated fatty acids have immense potential for food applications. A nutritional supplement based on low cost ingredients including wheat flour, soy flour, gram flour, ground nut and cashew nut was prepared. Encapsulated Docosa Hexaenoic Acid (DHA) powder containing 7% DHA was added to the nutritional mix at 2% level and vacuum packed. This product is intended for the use of infants above 6 months. Fatty acid profiling of the nutritional mix indicated

2.87% linoleic acid, 0.82% EPA and 2.05% DHA in the sample. Amino acid profiling indicated the presence of aspartate, glutamate, leucine, arginine and proline in major proportions. Sensory quality and oxidative stability of the product with and without the presence of 1% ascorbic acid (AA) was evaluated over a period of 12 months storage at ambient temperature. Both the samples were in acceptable condition over the entire storage period. Slight fishy odor was noticed in the ascorbic acid incorporated samples at the end of 12 months storage. Lipid oxidation as assessed by Thio barbituric acid reactive substances did not exceed the acceptable limit of 2 in both the sample during the entire 1 year storage period. Similarly, Aerobic Plate Count also remained in the lower levels where control and AA added samples had 3.65 and 3.44 log 10 cfu/g, respectively at the end of 1 year. The results indicate that the nutritional supplement containing encapsulated DHA retained its quality under vacuum packed conditions for 1 year, and it can be used a supplement to infants.

AV PO 02

Suitability of *Pangasius hypophthalmus* as a raw material for fermented fish product, ngari

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Fermented fish products are highly preferred foods in North-eastern region of India, northern Europe and the south east Asian countries. *Shidal*, *ngari*, *hentak*,