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Seafood is perceived as an excellent source of nutrients especially quality protein which is characteristically tender and easily digestible. Pasta products, being one of the most popular and widely consumed foods globally are the ideal sources for incorporating marine functional ingredients to reach the target population. Judicious formulation of ingredients in pasta helps to cut down the calorie making it more nutritious. Hence a study was carried out to develop fish pasta from Bombay duck (*Harpodon nehereus*) by cold extrusion method. Wheat and refined wheat flour (1:1) were the basic ingredients and fish mince was added at different levels viz., 5, 10, 20 and 30% for pasta preparation. Pasta with no added fish mince was used as control. Influence of the ingredients on the physical, cooking and sensory properties of fish pasta was studied. Moisture content of dried pasta ranged from 8-10%. An increase in protein and ash contents were observed with increased fish mince incorporation in pasta. Cooking properties viz., cooking time, cooking loss and cook weight was directly related to the levels of fish mince in pasta. The texture of the samples were also influenced by the levels of fish mince in pasta as indicated by a decrease in hardness and chewiness as well as shear strength with increase in fish mince levels in samples. Textural and sensory properties of pasta revealed a fish mince level of 5% as desirable and mouth feel of the product was affected beyond this concentration.

AV PO 08

Effect of fish protein hydrolysate and MAP on the quality characteristics and stability of chicken cutlet

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Fish protein hydrolysate (FPH) was incorporated in chicken cutlet to study the effect on quality aspects and storage stability of chicken cutlet. The experiment was conducted in 4 lots of various percentage of FPH on chicken meat at 0%, 5%, 10% and 15%, respectively. Cooking parameters of chicken which included cooking yield and cooking loss was studied. It was observed that with 15% FPH on chicken gave a better cooking yield of 63.64 ± 0.08 and a lower cooking loss of 36.55± 0.53 with respect to that of control. Based on the cooking properties, 15% FPH was used for the formulation of chicken cutlet with various binder and chicken combination (60% chicken and 40% potato, 70% chicken and 30% potato, 80% chicken and 20% potato) for the optimization of the blend. It was found that a combination of 70% chicken and 30% binder exhibited low oil uptake, minimum shrinkage, optimum pH, and Over Acceptability (OA) during sensory evaluation. Finally the optimised combination of 70:30 was used to prepare the chicken cutlet and analysed for the storage stability by subjecting to MAP and normal packaging at 2ºC. It was observed that the oxidative parameters such as PV and TBARS was lower for the samples which was given MAP than the samples stored under normal packaging. Overall acceptability also scored highest for the samples which was given MAP. Hence, it can be concluded that FPH exerts a positive impact on storage stability and quality parameters of chicken cutlet. This study indicates the potential use of FPH as an additive to enhance cooking yield, improve the frying characteristics and

oxidative stability of meat based system and deep fat fried products.

AV PO 09

Effect of sodium alginate/carrageenan composites on the oxidative stability of microencapsulated fish oil and its application in noodles

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Fish oil has an excellent source of omega-3 fatty acids. However, the use of fish oil as functional ingredients in foods has been limited by its oxidative susceptibility. Hence, fish oil has to be protected against oxidation preferably by microencapsulation. In the present study, the potential of sodium alginate/carrageenan as a wall material along with gelatin and maltodextrin for microencapsulation of fish oil was investigated. Microencapsulation of fish oil was done by spray drying. Fish oil and wall material was used at the ratio of 1:4. Microencapsulated fish oil had moisture content of 2.48-2.52%. Encapsulation efficiency of microencapsulates ranged from 84.22%-87.86. Flow properties of fish oil encapsulate were passable. SEM analysis showed spherical shape of the micro particle with size of 1.76 µm to 19.7 µm. FTIR analysis indicated the formation of polyelectrolyte complex between wall and core material and successful encapsulation of fish oil. Oxidative stability of microencapsulates were tested under accelerated (60°C) and refrigerated temperature (4°C).TBARS values of microencapsulates crossed the acceptable limit of 2 mg MDA/kg on the 4th day (2.2 mg MDA/kg), 28th day (2.5 mg MDA/kg) during accelerated, refrigerated temperature, respectively for the encapsulates contained sodium alginate. Results indicated that micoencapsulates contained sodium alginate was oxidatively stable than carrageenan added one. Microencapsulated fish oil fortified noodles were prepared by hand extrusion. Wheat flour was used as base material. Based on the sensory analysis, incorporation of fish oil encapsulates up to 2% level were acceptable without affecting the taste of noodles.

AV PO 10

Effect of green tea extract on the quality of fish nuggets during chilled storage

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In the present study, fish nuggets were prepared from pink perch (*Nemipterus japonicus*) mince and their qualities were evaluated under chilled (2°C) storage. Pink perch mince had 81.46% moisture, 17.44% protein, 0.85% fat and 1.02% ash. Fish nuggets were prepared in three different formulations by incorporating corn starch (4%), green tea extract (0.1%) and BHT (0.01%). Formulation containing only corn starch (4%) was served as control. Biochemical and microbiological qualities of fish nuggets were evaluated up to 17th day. Results showed an increasing trend in thiobarbituric acid (TBA) values during storage. However, sample contained green tea extract had a lower TBA value (0.34-0.44 mg MDA/kg) than BHT incorporated