

Development of Fish Cake by Incorporating Sword Fish (*Xiphias gladius*) and Tuna (*Thunnus albacares*) with Suitable Local Available Filler, Rice (*Oryza sativa*), Kurakkan Powder (*Eleusine coracana*) and Soya Flour (*Glycine max*)

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Fish is one of the excellent sources of protein which contains all essential amino acids, vitamins, minerals and especially omega-3 fatty acid which reduces the heart diseases. The present study focused on developing a new value added product, a fish cake using undervalued meat of Tuna (*Thunnus albacares*) and Sword fish (*Xiphias gladius*) available in fish factories. Experiments were conducted to find out the most suitable fish species and most suitable filler for producing the fish cake. The main ingredient of the fish cake was fish (50%) while rice (*Oryza sativa*), kurakkan powder (*Eleusine coracana*), soya flour (*Glycine max*) and spices were the other ingredients. The cake was made by chopping and grinding the fish meat and mixing it with other ingredients and putting in a mould to shape. The cake was then vacuum packed and stored at -20 °C temperature. The two types of fish cakes thus produced were fried in 163 -165 °C for 5- 8 minutes and were subjected to sensory evaluation of 40 untrained panelists. The first sensory evaluation showed that there is no significant difference ($P > 0.05$) between all other organoleptic characters except the colour and appearance showing that both tuna and sword fish are equally good as major ingredient in fish cake. The second trial was conducted to find out the best filler for the cake and rice, kurakkan and soya flour was used to prepare fish cakes. The sensory evaluation showed that the Soya flour is the best ($P < 0.05$) as filler. Then fish cakes were prepared combining Soya flour with tuna and soya flour with sword fish to select the final recipe. Keeping quality analysis was done for a period of five weeks and it was observed that water holding capacity and pH reduced in both samples with the time. Proximate analysis was done for both samples and the sample which had tuna fish and soy flour contained 17.96% protein and 2.47% fat compared to other sample which contained 15.28% protein and 1.83% fat concluding that fish cake with tuna and soy flour is better in sensory, proximate and keeping quality characters.

Key words: Fish cake, Omega-3 fatty acids