

Developing a Filling Solution Using Different Filling Media and Spices for Canning Skipjack Tuna (*Katsuwonus pelamis*)

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Skipjack tuna is one of the excellent sources of protein, fat, polyunsaturated fatty acids, vitamins, and minerals. Present study was conducted to develop a filling solution for canning skipjack tuna using oil and spices. Preliminary trials were conducted with 30 untrained panelists to find out the best spice level to adjust the flavor in the canned product. After selecting the correct formula, final canned fish was prepared. Shelf life studies were carried out by using microbiological tests, pH test and lipid oxidation analysis. In order to impart a proper flavor to the skipjack tuna canned in oil, 2% (w/w) salt, 2% (w/w) pepper, 1.5% (w/w) cardamom, and 1% (w/w) cinnamon were selected as the best levels ($P < 0.05$). Soya bean oil was selected as the best oil type, for the canning skipjack tuna comparing with palm oil, sunflower oil, virgin coconut oil, and corn oil ($P < 0.05$). A comparative study was done for the proximate analysis. It revealed that there is a significant ($1^3 < 0.05$) difference for all the physico-chemical properties of skipjack tuna canned in water with spices and soya bean oil with spices. Skipjack tuna canned in water with spices had a higher moisture content. Protein, fat, and ash content were high in skipjack tuna canned in soya bean oil media. Total viable counts were generally low. Coliforms and *Salmonella* were absent for all the samples. pH and the lipid oxidation results revealed that the skipjack tuna canned in water with spices and oil with spices were within the standard values. Considering the nutritional properties was recommended to choose skipjack tuna packed in water, not oil since tuna packed in water had less fat and calories. But both products can be used as a ready to eat fish product for consumers.

Keywords: Skipjack tuna (*Katsuwonus pelamis*), Soya bean oil, Nutritional benefits

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