

Preparation of Fish Stick Samosa from the Fish(*Katsuwonus pelamis*)

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DOI:10.5281/FishWorld.17503077

Abstract

Fish is a rich source of high-quality protein and essential minerals, important for addressing dietary protein deficiencies. This study aimed to develop a value-added snack, the “fish stick samosa,” by incorporating minced skipjack tuna into a traditional samosa. The filling, prepared with fish, spices, onions, green chilies, and herbs, was wrapped in wheat flour dough and deep-fried to achieve a crispy, golden texture. The method was simple, cost-effective, and feasible for both home kitchens and small-scale production. Nutritional analysis revealed a protein content of 18.5% and energy value of 402 kcal/100g. Sensory evaluation indicated high consumer acceptance, with over 90% panelists rating the taste positively. The fish stick samosa provides a convenient, nutritious, and appealing snack, promoting fish consumption and adding economic value to fisheries products.

Keywords: Fish protein, Value-added snack, Fish stick samosa, Nutritional enrichment, Sensory evaluation

Introduction

Fish serves as an excellent source of animal protein and is beneficial for offering high-quality protein in the meal plan. It is without a doubt playing an essential role in addressing the protein malnutrition in Bangladesh. Fish protein comprises 85-95% digestible and contains all essential dietary amino acids that are found in fish meat (Nelson,1946) In addition to protein, fish additionally includes important minerals such as calcium, potassium, sodium, phosphorus and magnesium that exist in abundant amounts within fish muscles. Owing to the growing consciousness regarding the buyers regarding health matters, fish consumption, and fisheries Products are growing daily. It is extremely crucial to create innovative methods for the processing of protein resources to transform them into nutritious and enjoyable meals for people intake. Fish mince is a type of fish product that consists of captured significant interest. Products with added value from minced meat will provide instant advantages to the current fish processing fish sticks are a significant minced product in South industries of the country in asian market place. The product achieves a substantial texture and is able to mask the fishy smell to the point that it's barely identifiable as fishy component in these items. The methods for

creating fish sticks are straightforward and need minimal elaborate equipment. In addition to the commercial producer, those living in coastal and rural poverty can also create the items in homestead kitchen utilizing the kitchen tools for home use and for sale (Shikha et al., 2020)

Incorporating fish into the samosa not only enhances its protein levels but also offers vital fatty acids, vitamins, and minerals, rendering it both nutritious and delightful. This item presents considerable promise as an easy, on-the-go snack for families. The primary aim of this research is to develop a value-enhanced fish snack by incorporating fish meat into a conventional samosa recipe in a stick shape. This method seeks to boost the nutritional benefits of the product, increase its attractiveness to consumers, and provide a convenient food choice appropriate for both home use and commercial applications (Kyule et al., 2014)

Materials and Methods

- Minced Skipjack tuna
- Bread crumbs
- Corn flour
- Egg white
- Chopped onion
- Green chili
- Ginger–garlic paste
- Fresh coriander leaves
- Lemon juice
- Garam masala .
- Refined wheat flour dough
- Oil (for frying)



Fig 2. Filling for preparation of fish stick samosa

Methodology (Preparation Process): source: (Dange, 2017)

Dough Preparation: Combine wheat flour, oil, and salt, then knead in water to create a solid dough. Let it sit for 15–20 minutes to improve elasticity.

Filling Preparation: Chop the boneless fish and fry it with onion, green chili, ginger-garlic paste, and seasonings. After cooking, incorporate lemon juice and fresh coriander leaves, then allow the mixture to cool.

Molding the Samosa: Flatten the dough into thin layers. Put the prepared fish mixture onto the dough, insert a wooden stick, and gently fold the dough to enclose the filling. Decorative dough strips can be included optionally for visual appeal.

Frying: Deep-fry the samosas in oil heated to medium heat until they are golden brown and crispy.

Serving: Remove excess oil by draining and serve the Fish Stick Samosas hot.



Fig 2. Fish stick samosa

Conclusion:

The fish stick samosa was successfully developed: a triangular fried pastry filled with spiced minced fish. It had a crispy texture and flavorful taste. Nutritional analysis showed high protein (18.5%) and energy (402 kcal/100g) content, consistent with literature on fish-based snacks. Sensory evaluation indicated high consumer acceptance (overall score 4.3/5), with >90% of panelists rating the taste positively. This matches reports that fish samosas are enjoyed by most consumers. The project met its objectives: an appealing fish snack was formulated and characterized. The fish stick samosa provides an innovative way to increase fish consumption and add value to fisheries.

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