



## **THE PROXIMATE COMPOSITION OF FISHFLAVOR STICK**

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### **ABSTRACT**

This study aims to determine the proximate composition of fish flavor sticks. This research was conducted from February to March 2020 in the application of Laboratory chemistry and services from the mathematics and science faculties of Padjadjaran University. The method used in this research is descriptive. Observations were made on water content, ash content, protein content, and fat content of the sticks. Based on the results of the study, it was found that fish flavored sticks had a water content of 0.21%, ash content of 2.53%, protein content of 8.33% and fat content of 28.93%.

**Keywords** : Fish flavor, stick, proximate test.

### **INTRODUCTION**

The proximate test is a chemical test to identify nutrient content such as water, ash, protein and fat in a food substance from feed or food raw materials. The proximate test has several advantages that the common method used to determine the chemical composition of a foodstuff does not require sophisticated technology in its testing, resulting in an analysis of the outline can calculate the value Total Digestible Nutrient (TDN) and can provide general assessment of the utilization of a food ingredient (Bakhtra et al. 2016). Proximate test is done to know the nutrient content contained in the stick addition powder flavor Head of the 2.5% treatment is the most liked treatment and the addition of the treatment of fish head flavor powder of Tenggiri 0% as checklists.

The results of the research Aprilia (2020) on the addition of powder fish head flavor to the favorite level stick with the treatment of 0%, 2.5%, 5% and 7.5% showed that all treatments are still acceptable for panelists, but the treatment of 2.5% flavor powder tenggiri fish head is the most liked treatment panelist. During this time, the composition of the proximate in the fish flavor stick is not known so that the research needs to be done to find out the chemical characteristics found on the fish flavor stick.

### **MATERIALS AND METHODS OF RESEARCH**

#### **TOOLS AND MATERIALS**

The tools used in this research are plastic basin, sieve, stove, stainless knife, scales, pan, stainless spoon, stirrer, plastic Solep, a set of cookware, sieve Tyler 80 mesh, measuring cup, cutting board, Sonic Electric Digital Scales With thoroughness 0.1 g and Amphia.

The material used in this research is the powder head of the fish heads flavor, Butter (blue band), garlic, salt, eggs, wheat flour Blue triangle (bogasari), Oil (fortune).

## **METHODS OF RESEARCH**

The method used in this research is a descriptive method on the stick. Proximate test method includes water content by oven method, ash content with dry-ignition method (dryashing), protein levels with Kjehdahl method, fat content by Sochlet method (AOAC 2005).

## **MANUFACTURE OF TENGGIRI FISH HEAD POWDER FLAVOR**

The fish head of fresh Tenggiri 3 kg cut and washed to clean, the head is mixed with water with a comparison of the head of the Fish and Water (1:2) and added spices (shallots, garlic, pepper, turmeric and salt). Once mixed in the pan, the head of the fish, seasoning, and water boiled with a boiling temperature of 85 ° C-100 ° c for 60 minutes. After braised the broth Dihiltrat and added maltodextrin as much as 15% stirring until homogeneous. The flavor broth is done drying using an oven with a temperature of 80°c in thickness 0.25 mm for 1 hour. The dried Flavor is crushed into powder form using a blender.

## **MAKING OF STICK**

Powder Flavor Head Fish Tenggiri based on concentration 0%, 2.5%, 5%, 7.5%, salt and wheat flour Stir then eggs, butter and crushed garlic inserted into the dough and then stir until proof. The dough is based on amphia with a thickness of No. 4, many times. The dough is moved on the flattened Amphia and ground again. The dough is cut to a width of about 7-10 cm. Afterwards fried with heated oil in medium heat then stirring so that the stick development is evenly distributed. Frying channeled for ± 4 minutes after the yellow brown stick is lifted and removed.

## **PROXIMATE TEST**

The proximate test is done to find out the nutrient content contained in the panelist's most liked snack (2.5%) and control (0%). Proximate tests include water content test, ash content, protein levels and fat levels (AOAC 2005).

## **RESULTS AND DISCUSSION**

The results of the proximate test of the fish flavor can be seen in Figure 1.

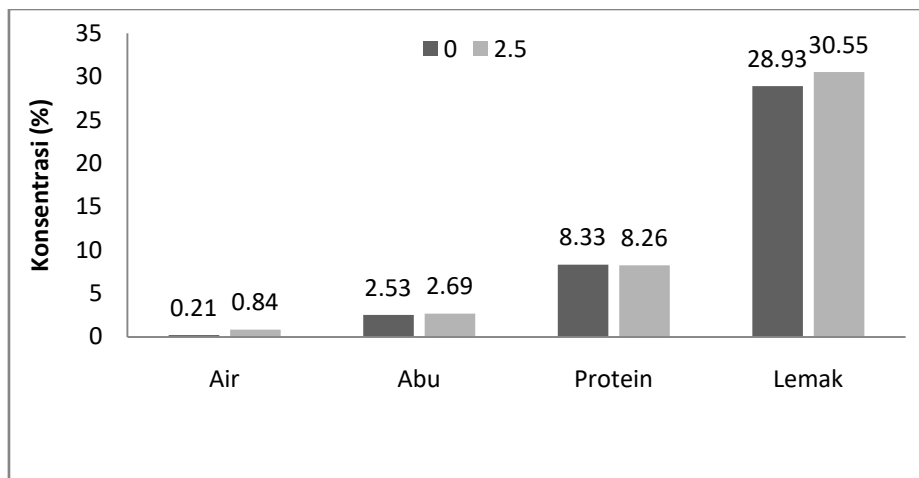


Figure 1. Nutrient Content Stick Fish flavor

Source: Laboratory application of chemistry and services

### A. Water Content Test

Moisture content contained in a food is the total amount of water stored in the foodstuffs either in the form of free water, i.e. water that is bound by dispersion on the surface of macromolecules and physically bound water and chemical (Agusandi et al. 2013). Water content test results can be seen in Figure 2.

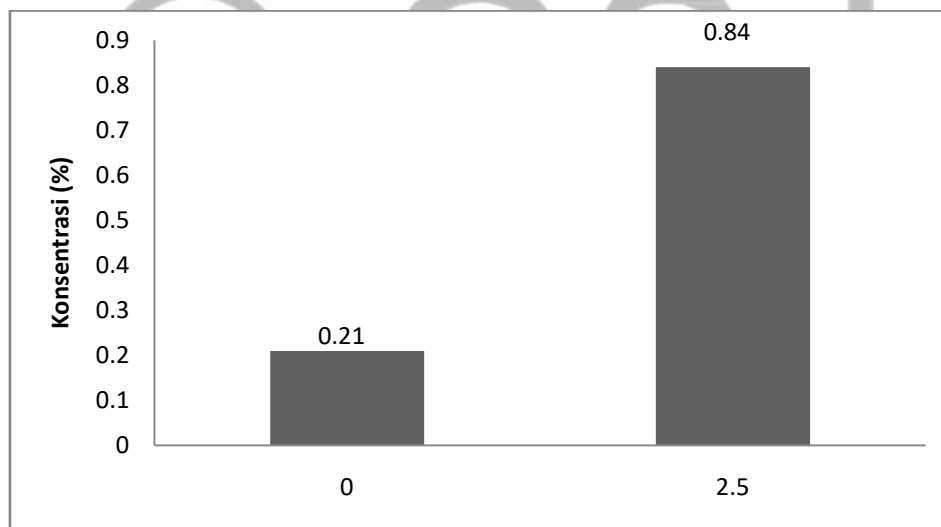


Figure 2. Water content

Based on proximate test results, the moisture content of the stick is 2.5% higher than the 0% treatment. Water content test results per 100 gram stick material 2.5% treatment with the addition of fish flavor of 0.21% of water content on the stick increases, this is due to the addition of water content of the powder head flavor powdered Tenggiri in the treatment of 2.5%. In both treatments still qualified stick quality based on SNI 01-2973-1992 which states that the maximum water content on the stick is 5%. The resulting water content is still under the requirements of SNI, so it can be said that the content of water stick with the addition of fish flavor meets the quality requirements of stick snacks based on SNI. Low water content will be more resistant to microbiological damage (Dewita et al. 2010).

### B. Test Ash Content

Ash content is an organic substance derived from the remainder of the combustion of a material, so that more and more organic materials added in the process of making wet noodles will increase the amount of ash content after not. The main components of the ash constituent minerals consist of potassium, posfor, magnesium, sulfur, calcium, chloride, and sodium (Winarno 1997 in Aisha et al. 2015). Water content test results can be seen in Figure 3.

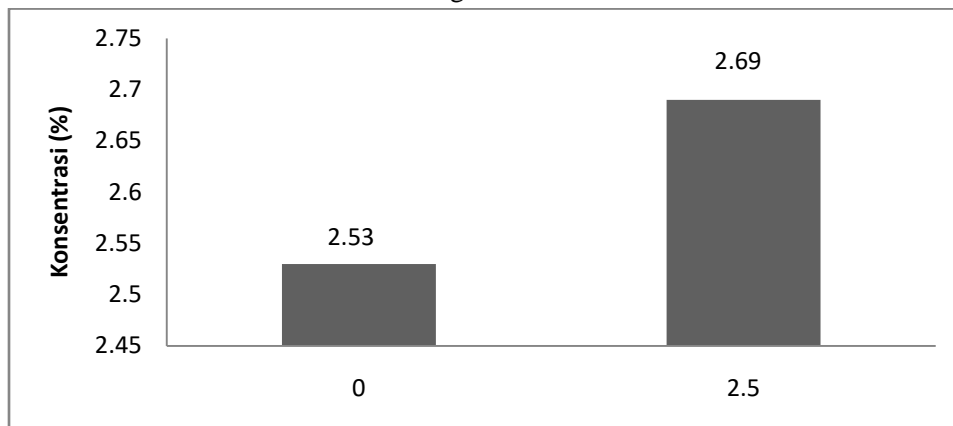


Figure 3. Ash Content

Based on test ash levels in Figure 3. With the addition of fish tends to increase compared with no treatment. Increased ash content on the stick caused by the fish head flavor powder that contains mineral Tenggara thereby contribute to donate minerals on the stick. The fish-flavored ash content of 0% and 2.5% respectively is 2.53% and 2.69%. If compared with the requirements of maximum ash content stick with the basic material of wheat flour (SNI), the level of ash stick on this research corresponds to the maximum level of ash on the SNI stick. The ash level tolerance limit for a product ranges from 2% to 3% of the product's constituent component (Elwis 2009).

### C. Test Protein Content

Protein is a food substance that is very important for the body, because in addition to functioning as a fuel in the body also serves as a substance builders and regulators. Proteins can be used as a backup energy source when the body's energy requirement is not fulfilled by carbohydrates and fats (Agusandi et al. 2013). The test results of protein levels can be seen in Figure 4.

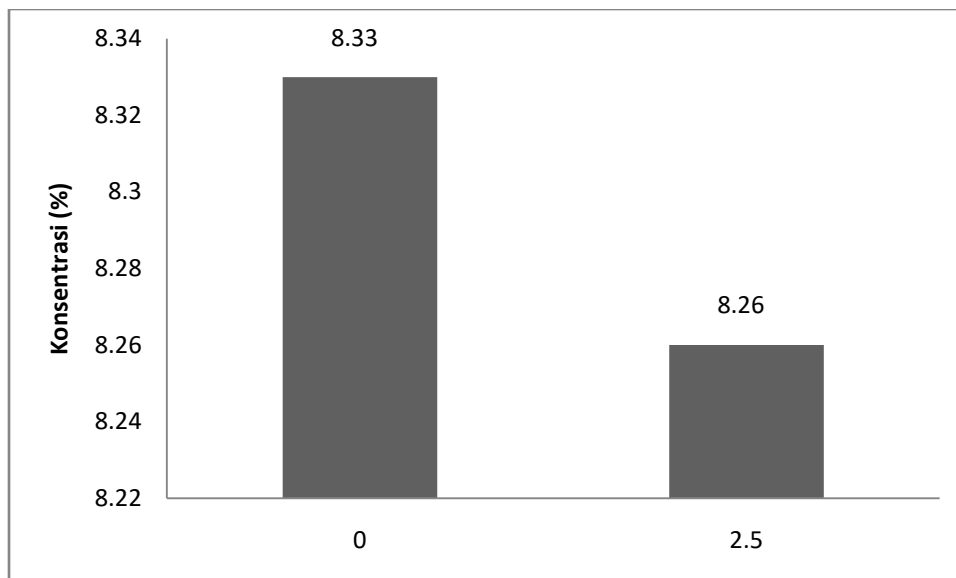


Figure 4. Protein Content

Based on the proximate test the protein levels contained in the stick the 0% treatment of the addition of the powder fish Head flavour is 8.33%, and at the treatment of 2.5% The addition of the fish head flavor powder is 8.26% per 100 gram ingredients. Decreased protein content on the stick treatment 2.5% compared to the treatment 0%, processing process powder making of fish head flavour using a high boiling temperature and treatment resulting in the loss of protein content on the stick Added powder flavor Head fish Tenggiri, this is because in the process of processing at least there is a protein that is contained damage due to processing at high temperatures when the processing results in a denatured protein ( Sundariet al. 2015).

This is in accordance with the statement of Dewita et al. (2011) which says that the protein is not resistant to heat, so that the protein levels contained in a food material is determined based on the process done in the manufacture of foodstuffs The. Protein quality is determined by the type and proportion of amino acids it contains, high-grade proteins are proteins that contain all kinds of essential amino acids in a proportion that is appropriate for growth (Sudha et al. 2007).

#### D. Test Fat Content

The fat content of a food product will give a savory flavor to the food, but it will give a long sense of satiety for those who consume it. Fats have a function as a solid energy source that generates 9 calories per kilogram, or 2.5 times greater energy produced carbohydrates and proteins in the same amount (Febrianti et al. 2018). The results of the fat content test on the fish flavor stick can be seen in Figure 5.

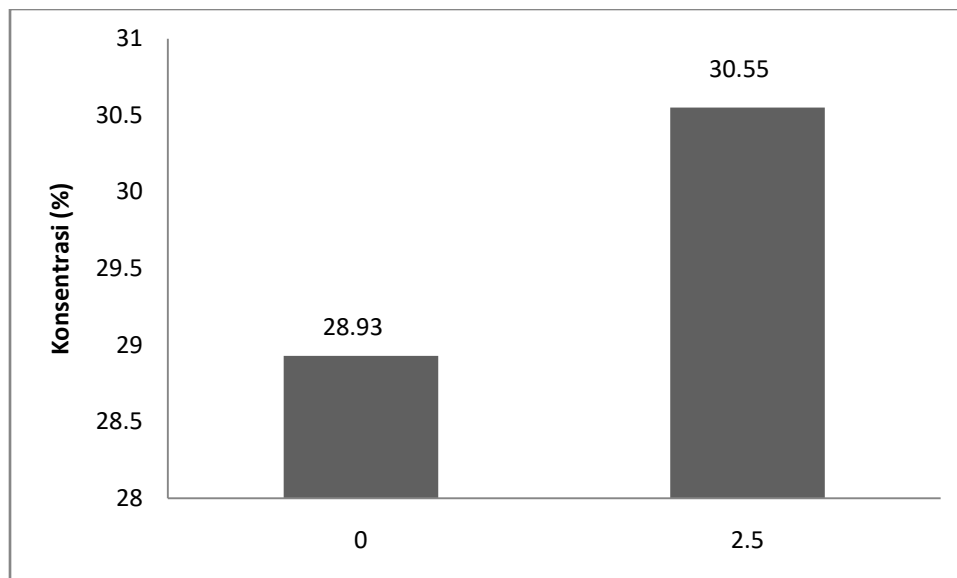


Figure 5. Fat Content

Based on the proximate test on the fat stick content of fish the taste of 0% and 2.5% showed that there was an increase in fat content value of 28.93% at the treatment of 0% and 30.55% at the treatment of 2.5% per 100 gram stick. There is a slight increase in fat levels that occur due to the addition of fat derived from the powder head flavor of the mackerel, which is added, because the powder head of the fish heads are derived from a difiltrat head broth and a lot of fat content In the product because the dough is mixed with butter and also caused by oil that stuck to the stick snack post frying pan so that it will raise the fat content on the stick snack.

### OVERALL OBSERVATION RESULTS

The overall results of research that has been done to water content test, ash content, protein levels and fat content of the addition of a fish stick can be seen in table 1 below.

Table 1. Overall observation results

Observation Proximate test (%)	Average Fish Flavor addition treatment	
	0%	2,5%
Water	0,21	0,84
Ash	2,53	2,69
Protein	8,33	8,26
Lipid	28,93	30,55

Based on the proximate analysis done on the stick with the addition of the most loved fish flavor is 2.5% and without the addition of fish flavor as a comparator showed the results of water content is increasing with the added taste of fish, namely the treatment 0% contains water of 0.21% and the 2.5% treatment contains water by 0.84%. Unlike the water content, the protein content decreases along with the added flavor of the fish in the stick treatment 0% contains 8.33% protein and 2.5% treatment contains 8.26% per

100 gram stick. While the fat content is increased by a 0% treatment of 28.93% and a 2.5% treatment of 30.55%.

## CONCLUSION

Based on the results of the research can be concluded that the content of fish stick nutrients still meet the quality requirement stick based SNI 01-2973-1992. The value of proximate test on the taste of fish stick is 0.21% water content, ash content is 2.53%, 8.33% protein content and fat content is 28.93%.

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