

**Characteristics of physicochemistry, microbiology and antibacterial activities from fermentation of viscera fish sauce**

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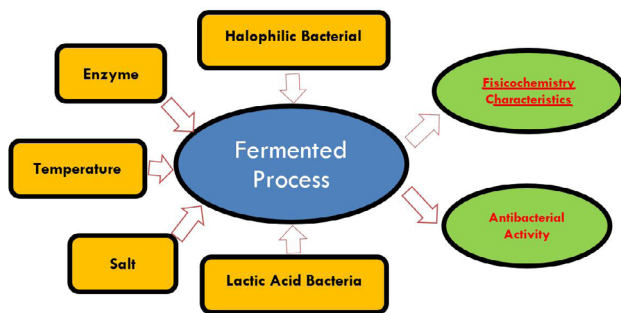
**Statement of the Problem:** High demand for tuna products both in fresh and processed conditions caused an increase in waste or byproducts in form of head, skin, stomach contents, bones, fins and red meat parts. About 20-30% of fish production was around 6.5 million tons per year as waste. This means that 2 million tons are wasted as waste, which should be utilized. The process of preserving and processing fish generally results in altered waste viscera which is a source of fat and protein. The waste can actually be utilized, one of the contents of the stomach (viscera) can be made into fish sauce. Fish sauce is one of the processed food products through a fermentation process made from fish meat and fish byproducts in the form of viscera, has a distinctive taste and smell and a long shelf life. Fish sauce can be made in three ways, namely by enzymatic, chemical and fermentation processes spontaneously. However, the characteristics of fish sauce produced by Tuna have not been widely known, nor has there been information about physicochemical characteristics. In addition, during the fermentation process lactic acid bacteria can hydrolyze proteins into peptides that have antibacterial activity.

**Methodology & Theoretical Orientation:**

**Procedure Analysis:** Color test used a color reader (Minolta CR-10), whereas, Viscosity used a viscometer (Elcometer 2300). (Wenno et al., 2016). pH and acidity, salinity, Proximate (AOAC, 2005), Lactic Acid Bacteria (LAB) (Yin et al., 2002), TPC (Firdaus, 1993) and antibacterial Activity (Wang et al., 2008).

**Findings:** Fermented sauces produce bioactive peptides which have antibacterial activity and a number of nutritional components that are beneficial to health.

**Conclusion & Significance:** The physicochemical characteristics of tuna viscera sauce The results of the study showed physicochemical characteristics including calor ( $L^* 8.3$ ,  $a^* 1.3$  and  $b^* 5.7$ ), viscosity of 10.38 cP, pH 5.00, salt content of 13.21%, total acid 0.74 and TVBN 28.00 mgN/gr, the proximate was 62,87 moisture, 12,16 ash, 23,18 fat, 1,37 protein and 0,42 carbohydrate. The total lactic acid bacteria and total plate count was 2.3 log cfu/gr and 2,3x10<sup>1</sup> cfu/gr. The antibacterial activity of isolated tuna viscera sauce on 3 test bacteria (Vibrio parahaemolyticus, Salmonella typhimurium and Escherichia coli) showed inhibitory activity (clear zone) with different inhibition diameters



**Biography**

Dr Augusta Inegbedion has completed her PhD in 2016 from University of Benin, Benin city. She is the Acting Head of Medical Biochemistry department, Ambrose Alli University, Ekpoma. She has published more than twenty-five papers in reputed journals.

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