

ACCEPTABILITY OF MILKFISH (*Chanos-Chanos*) SAUSAGE: TECHNO-GUIDE FOR INSTRUCTION AND EXTENSION ACTIVITIES

Josephine M. Villagonzalo
CSCST– Moalboal Campus

ABSTRACT

The study aims to promote and introduce milkfish that will meet consumers acceptability as an alternative way of preparing fish sausage other than the traditional use of pork or beef, geared towards livelihood and techno-guide in the College Extension Program.

Recipe A, (Milkfish with bell pepper) was acceptable with 8.26 weighted mean. Recipe B, (Milkfish sausage with hot pepper) was very much liked with 8.57 weighted mean received a better rating with a difference of .31.

The F – Distribution of the following attributes: color 44.90; odor / smell 0.14; flavor, 58; texture 8.84; and the general acceptability, 1.69. Thus, HO is accepted.

The formulated milkfish sausage with bell pepper and with hot pepper was found to be “**liked very much**”. The formulation could be viable for production, with commercial intent.

INTRODUCTION

The Philippine Constitution in Article XIV, section 10, stipulates that science and technology are essential for development and progress. As such priority is given to research and development invention, innovation and utilization. Furthermore, the state shall support indigenous, appropriate and self-reliant scientific and technical capabilities, and their application to the country’s production and national life. [Mopupul (1998) as cited also by Dionaldo, (2002)].

In response to the constitution expectation, schools in the Philippines, must accelerate social growth and economic development, which among many, should aim to be product oriented. So then, in particular, fishery schools should attain these objectives of making education more relevant to the need of the nation.

Basically, fishery schools promote varied subjects in its curriculum such as: fish culture, fish capture and fish preservation. One food preservation is a technology on fish processing, which the present study is adopting.

It is a known fact that fish is a common food in the diet of average Filipino. In particular, milkfish account for about 60% of the national protein consumption, ranking second to rice as the most important staple food of the Filipinos (Kirsken – Nodhjelp, 1997). On this record, there must be a technology that can promote its concentration and preservation.

In this study the palatability of the milkfish meat sausage production: techno guide for instruction and extension activities will be developed using methods of preservation. The procedure involves in the present study will be researchable and the composition is to promote and introduce milkfish that will meet consumers acceptability and help generate concern of technology on the livelihood and techno-guide for instruction and extension activities.

Statement of the Problem

Specifically, it attempted to answer the following Questions:

What is the acceptability of the milkfish *chanos-chanos* sausage considering the odor, flavor, taste, color,

texture; and general acceptability as to:

Recipe A using red bell pepper: and
Recipe B using hot pepper?

Based on the findings, what techno guide could be developed or instruction and extension activities?

RESEARCH INSTRUMENT, APPARATUS AND EQUIPMENT

The actual instruments, apparatus and equipment used in the study are the following.

knives	basin
weighing scale	measuring spoon
grinder	chopping board
funnel	thread
Colander	

Importance of the Study

The results of the study will give a reference to the teachers in teaching modern technique in food processing. This will also promote and introduce milkfish that will meet consumers' acceptability and help to generate concern of technology on the livelihood and techno-guide for instruction and extension activities.

People in the community will also benefit technology in fish processing, thus, improving their socio-economic status by engaging small scale business.

Literature Review

The study of fish sausage was originated in Japan by using meat flesh of the different classes of fish. Sausage could mean preserving food from all kinds of fresh meat. An alternative yet produces wholesome food to eat not only to the Filipino people but to the consumption of the people outside the country as well. The procedure in preparing such could be the same as what other sausages from the different kinds of meals is prepared. Its desired taste and the color may vary depending on the ingredients used.

Milkfish is scientifically known as *Chanos-Chanos* (Forsk.) and locally called bangus by the Ilonggos, Tagalogs, and Cebuanos. This is considered as the oldest fish in the world (Duplo, 2003).

One of the processing methods that is conceived for the abundance of "Milkfish" is making into convenient food item known as milkfish sausage.

Sausage is a product usually prepared during special occasions. It is used extensively in many countries. It is a term used for a dish made of fish meat and port meat. This menu can be served in every meal to make it delicious, nutritious and healthy. It makes a great party and better way to entertain friends and visitors during special occasions.

A variation of fish sausage was introduced to the Philippine in 1961 when the Japanese participants in the Food Agriculture Organization (FAO) sponsored the fishery technology. Training course was held in February and March 1961 at the Asian Labor. Fishery products are developed as a response to the gradually changing consumers' preferences. Value addition is not new. Common processing techniques are undertaken to add value to the product. However, the product forms may be new because they are intended to cater to the needs of consumers from the different age brackets with different nationalities and health-conscious individual (Chavez, 2002).

THE RESEARCH DESIGN

Experimental method was employed in this study using descriptive and statistical treatment in processing the data. This method seeks to find out which of the two recipes using the different indigenous species of milkfish will produce better quality as to odor, flavor and taste, color and texture acceptable to the public.

The experiment used the basic recipe of milkfish, pork and other related ingredients covered a period of (4) months, which started from February, 2007 to May 2007. There were two replications in order to come up with the evaluation from the board of evaluators.

Figure 1 shows the conceptual framework of the study presenting the independent variables: milkfish, and sensory evaluation of trained panelists. Laboratory testing of nutritional value was the dependent variable. The usual ingredients and processes are used to produce milkfish using different additional indigenous spices, the output is the proposed milkfish sausage.

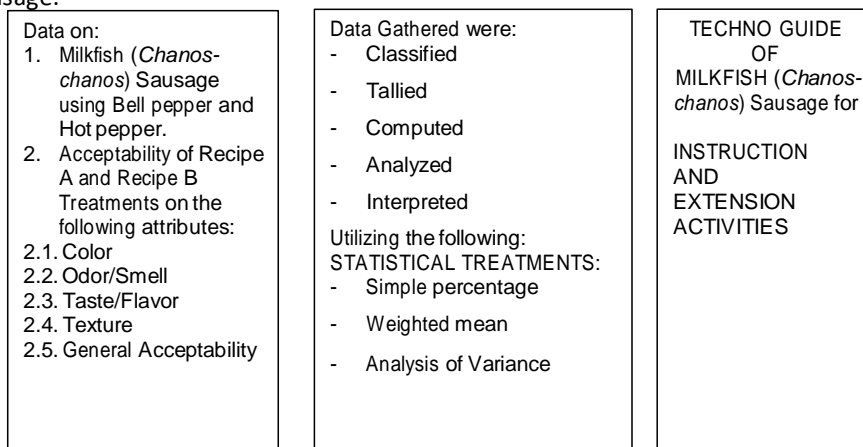


Figure 1 shows the independent variables (formulation of milk fish sausage and independent variables (total acceptability of the products) and the treatment of the data gathered as basis in developing a Techno-guide on Milkfish Sausage as an integral component of Instruction and Extension Activities.

Detailed Procedure

Milkfish sausage was prepared in the fish processing laboratory of CSCST-CF-MCC following the usual preparation of fish sausages.

Milkfish meat was separated from the bones, and soaked in 9 ⅔ parts of the water and ⅓ part of salt. The meat was drained using a colander and cut into cubes. After that, it was ground through meat grinders. All the indigenous ingredients was blended, added and mixed at a medium speed. Then the milkfish sausage was stuffed in casing. The sausage was then tied with a thread, and cooked in simmering point water at 90 °C (194 °F on just below) for 30 minutes. Then, the sausages were cooled in running water for 10 minutes to avoid spoilage or deterioration due to the sudden change of temperature. It was then packed in a cellophane bag.

The two products were subjected to sensory evaluation by the seven trained panelists using the Hedonic Scale. In the study, the evaluation sheet is the main instrument in gathering data. This will be distributed to the panel of evaluators. They will be given ample time in order to assure reliable result of the products such as odor, palatability, texture, and flavor. Organoleptic test with the use of 9 – point Hedonic scale will be used in evaluating the products.

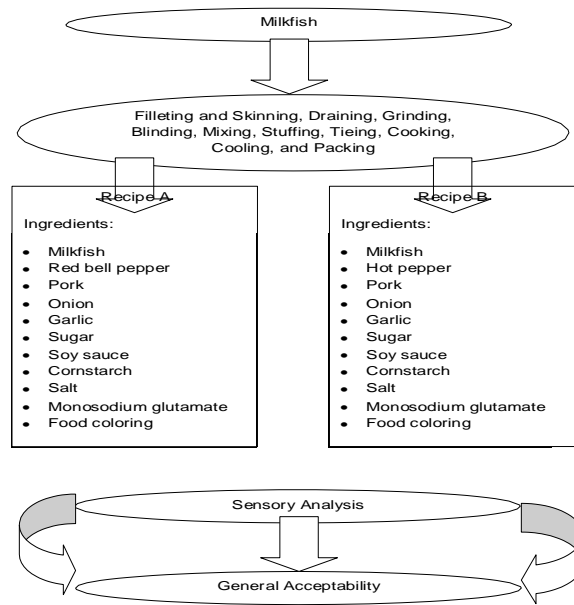


Figure 2. Flow Chart in the Preparation of Milkfish Sausage

Statistical Treatment

The Simple Percentage was used in the distribution of respondents. The weighted mean was utilized in the treatment of the panelists’ sensory evaluation. The ANOVA or F test was used to determine the significance of the response regarding the results of their sensory evaluation.

RESULTS AND DISCUSSION

Table 1. Panelists Rating on the Two Recipes

Recipes	Color		Odor		Flavor		Texture		General Acceptability		Total AWM
	AWM	DR	AWM	DR	AWM	DR	AWM	DR	AWM	DR	
A – Bangus sausage with bell pepper	8.26	LVM	8.17	LVM	8.40	LVM	8.20	LVM	8.33	LVM	8.26 LVM
B – Bangus sausage with hot pepper	8.60	LVM	8.63	LVM	8.53	LVM	8.47	LVM	8.57	LVM	8.57 LVM

Average Weighted Mean – AWM, Descriptive Rating – DR, Liked Very Much – LVM

Table 1 shows that the formulation of bangus sausage with bell pepper and the bangus sausage with hot pepper has an average weighted mean of 8.26 and 8.57 respectively having a description of Liked Very Much.

The table below shows that the color and texture have significant difference between the two recipes thus rejecting the hypothesis. While the three remaining attributes which is the odor, flavor and general acceptability have no significant difference thus accepting the hypothesis.

Table 2. ANOVA on the quality attributes of the two recipes.

	Computed F	Decision
Color	0.90	HO = Accepted
Odor	0.14	HO = Accepted
Flavor	0.012	HO = Accepted
Texture	0.84	HO = Accepted
General Acceptability	1.69	HO = Accepted

CONCLUSION

Based on the findings of the study, it was concluded that the first and second formulation of bangus sausage with bell pepper and with hot pepper were found to be **very palatable and, thus, very acceptable**. The formulations could be viable for production either with hot and non-hot taste.

RECOMMENDATIONS

In view of the findings and conclusions, it could be further inferred that the two formulations have appealing tastes through ingredient enhancement. It is evaluated that such formulation could be commercially feasible. Based on the result of study, the following recommendations are formulated other ingredients, aside from those that were used could be feasible to other species of fish abundant in the locality; production of this formulation could be used for extension activities; production of this kind could be highly mechanized; food value could be tested at the Department of Science and Technology; income generation could be promoted as one livelihood program for students, teachers, housewives and other family member and townspeople of Moalboal, for the improvement and development of their socio-economic status; and, project and program implementation shall be part of extension activities as basis for technology transfer.

REFERENCES

Books

- Bitting, K.G. The Art of Preserving Animal and Vegetable Substances for Many Years. A Translation from N. Appert's Original from Thermal Processing of Foods by S.A. Goldbith M. A. Joslyn and J.T.R. Nickenson. 1981.
- Borgstrom, Geirge. Principles of Food Science. Volume I. The McMillan Company, New York. 1968.
- Calmorin, Laurentina P. et. Al. Introduction to Fishery Technology. National Bookstor Inc. Metro Manila Philippines, 1990.
- Dagoon, Jessie D. Fishery Technology I. Rex Printing Compny Inc., Manila Phils., 1999
- Desrosier, N.W. The Technology of Food Preservation. Third Edition. The AVI Publishing Corp. Inc. West Port, Connecticut, 1970.
- Espejo, Hermes J. Processing Technology in the Tropics. Tawid Publications 102 B. Gonzales St. North Xaxierville Philippines. 1988.
- Herson, A.C. and E.D. Hulland. Canned Foods: An introduction to their Microbiology
- Laguna, Rosalinda T. et. A. Food Preservation for Filipinos. G.M.S. Publishing Copr. Quezon City, 1989.
- Standby, Muarice E. Industrial Fishery Technology. Krieger Publishing Co., N.Y.
- Yap, Wilfredo G. Rabanal, Hermenio R. and Llobera, Jose A. Winning the Future in Fisheries. Mary Jo Educational

Supply Manila. 1996.

Unpublished Thesis

Olandria, Judith Lamoste, "An Experiment of Canning Hearing: Basis for a Proposed Entrepreneurship Training Program." Unpublished Master's Thesis. Bohol School of Arts and Trade, Tagbilaran City, 1998.

Timtim, Rosemarie D. "Canning of Bangus in Salmon Style without seaweeds, With Fresh Eucheuma and with Eucheuma Extract: Its Acceptability" Unpublished Undergraduate Thesis: CSCST-CF MCC, Moalboal, Cebu.

Tabanao, Loty Y. "The Acceptability of Canned Shord Bodied Mackerel in Salmon and Spanish Style With and Without Seaweeds." CSCST-CF, Moalboal Cebu Campus, Moalboal, Cebu. March 2002.

Periodicals/ Publications

Abelle, Flor F. and Baltazar, Consuelo C. 1995, Status of Fisheries Trade and Post harvest Activities in the Philippines. Technical Paper for Presentation at the Second National Fisheries Workshop On Policy Planning and Industry Development, Puerto Azul Beach Hotel, Cavite.

Avery, AC. Fish Processing Handbook for the Philippines. Research Report No. 26. U.S. Government Printing Office, 1950.

Baltazar, Conzuelo C. and Norma Borja, 1995. Fish by Catch and by Product Utilization. Technical Paper for presentation at the Second National Fisheries Workshop on Policy Planning and Industry Development, Puerto Azul Beach Hotel, Cavite. (Originally Scheduled for November 22-23,1995.)

Garchalian, Miflora M. 1995. Philippine Fish Processing: Status Problems ans action Needed. Technical Paper for presentation at the Second national Fisherores Workshop on Policy Planning and Industry Development, Puerto Azul Beach Hotel, Cavite. (Originally Scheduled for November 22-23-1995).

Mendoza, Leonarda S. 1995. Philippine Fish Inspection and Quality Assurance Status. Technical Paper for presentation at the Second National Fisheries Workshop on Policy Planning and Industry Development, Puerto Azul Beach Hotel, Cavite.(Originally Scheduled for November 22-23,1995).

National Industrial Manpower Training Council. TESDA implementing Guidelines Manila DTI 1996.

Technical and Vocational Education Accrediting Agency of the Philippine. Evaluation Instrument for TECHNICAL AND VOCATIONAL Schools. 1987.

Westlund, Llena. 1995. Apparent Historical Consumption and Demand for Fish and Fishery Products – Exploratory Calculations in International Conference on Sustainable Contribution of Fisheries to Food. Tokyo, Japan 4-9 December 1991. Food and Agriculture Organization of the United Nations.

ACKNOWLEDGMENT

The researcher wishes to convey her heartfelt gratitude to the people whose enormous efforts in sharing their expertise, inspiration and guidance.