

pH of Street- Vended Pork Barbeque in Mambusao, Capiz, Philippines

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Abstract- This study was conducted to determine the pH value of cooked pork barbeque samples from selected cooked pork barbeque stands in Mambusao, Capiz, Philippines.

Cooked pork barbeque samples from Site A, Site B and Site C in selected pork barbeque stands of Mambusao, Capiz were bought, frozen overnight and were then subjected to pH analysis at Department of Science and Technology (DOST)- Iloilo City, Philippines. Gathering of samples was done four times on the three identified sites.

Cooked pork barbeque samples have pH that are favorable for the growth of salmonella spp, staphylococcus aureus and Escherichia coli except vibrio cholera at two sites during the second sampling period.

Index Terms- pH, street-vended pork barbeque, Philippines

I. INTRODUCTION

Street foods often reflect traditional local cultures and exist in an endless variety. There is much diversity in the raw materials as well as in the preparation of street food beverages, snacks and meals. Vendors' stalls are usually located outdoors or under a roof which is easily accessible from the street. They have low-cost seating facilities which are sometimes rudimentary. Their marketing success depends exclusively on location and word-of-mouth promotion. Street food businesses are usually owned and operated by individuals or families but benefits from their trade extend throughout the local economy. For instance, vendors buy their fresh food locally, thus linking their enterprises directly with small-scale farms and market gardens (Winarno and Allain, n.d). Street foods can be sources of enteropathogens (Mensah, et. al., 2002). pH is one of the intrinsic factors that determine the microbial growth in foods. pH impacts make up of microbial community and therefore types of chemical reactions occur when microbes grow in food. When the pH of the food is favorable for bacteria, food-borne infections and food intoxications possible occur. (U.S .FDA, 2013).

Mambusao, as one of the municipality in Capiz, Philippines is a place where travelers from the national and international destinations passes almost every day. People also in this place are busy due to the presence of numerous business and educational institutions and other government establishments. Street-food is indeed a part of people's routine in this area to cope with the busy schedules. Hence, it is timely to evaluate or assess the pH of the street-vended pork barbeque to determine the safety of the food to the consumers.

II. RESEARCH ELABORATIONS

The materials used in the study were the cooked pork barbeque samples, thermochase, ice, aluminum foil, face mask, triple beam balance, laboratory gown for the researchers, thermometer, sterile plastic bags and 70% isopropyl alcohol.

To collect and transport samples, 15 to 20 pieces cooked pork barbeque samples were bought from Site A, Site B and Site C and were wrapped with clean aluminum foil. All samples were then immediately placed in the freezer in order to be ready for transportation on the next day. Every samples were labeled and sealed to prevent cross contamination. On the next day, the samples were then placed in a thermochase, full of ice, and was transported to DOST-Iloilo for analysis. Analysis of pH value of every cooked pork barbeque samples was done using Electrometric method conducted by DOST-Iloilo.

Mean was used to determine the pH of cooked pork barbeque samples in the identified cooked pork barbeque stands.

III. RESULT OR FINDING

Table 1. pH of cooked pork barbeque samples from selected cooked pork barbeque stands in Mambusao, Capiz

Period of Sampling	Sources		
	A	B	C
Sept.7,2011	5.95	5.87	5.76
Sept.14,2011	6.14	5.92	5.78
Sept.21,2011	5.91	5.81	5.76
Sept.28,2011	5.67	5.77	5.67
Mean	5.92	5.84	5.74
	**pH Growth Range of Some Pathogenic Bacteria (Jay, 1986 as cited by Ticar, 2015).		
	Pathogens	pH Range	
	Salmonella spp	4.5 to 9.0	
	Staphylococcus Aureus	2.6 to 10.0	
	Vibrio cholera	6.0 to 9.6	
	Vibrio parahaemolyticus	5.0 to 9.6	
	Escherichia coli	4.6 to 9.5	

The highest ph of cooked pork barbeque sample was obtained at site A during the second sampling period while the lowest pH was obtained also from site A but during the last sampling period. It further showed that the pH is within the favorable growth for salmonella spp, staphylococcus aureus, vibrio parahaemolyticus, escherichia coli from all sources at

different sampling periods except vibrio cholera which was only favorable for growth during the first sampling period of Site B and Site C.

IV. CONCLUSION

The pH of cooked pork barbeque samples are within the microbial growth range for Salmonella spp, Staphylococcus aureus and Escherichia coli, Vibrio parahaemolyticus but only 17% of the pH of cooked pork barbeque samples was favorable for growth of vibrio cholera.

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