

**Correlation of Isothiocyanate Level in Wasabi Paste to the  
Growth Response of *Escherichia coli***

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(Major in Human Biology)**

**Maria Valentina A. Evangelio  
Chino P. Victa**

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## TABLE OF CONTENTS

Title Page.....	i
Approval Sheet.....	ii
Acknowledgement.....	iii
Table of Contents.....	iv
1.0 INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Conceptual Framework.....	3
1.3 Objective of the Study.....	3
1.4 Hypothesis.....	4
1.5 Scope and Delimitation.....	4
1.6 Significance of the Study.....	4
1.7 Definition of Terms.....	5
2.0 REVIEW OF RELATED LITERATUE.....	6
3.0 METHODOLOGY.....	14
3.1 Research	
Design.....	14
3.2 Research	
Setting.....	14

3.3 Research	
Procedure.....	14
3.4 Data Gathering and Statistical Treatment.....	17
4.0 RESULTS AND DISCUSSION.....	19
4.1 Results.....	19
4.2 Discussion.....	23
5.0 CONCLUSION AND RECOMMENDATIONS.....	25
5.1 Conclusions.....	25
5.2 Recommendations.....	26
6.0 LITERATURE CITED.....	27
7.0 APPENDICES.....	36
7.1 Standard	
Procedure.....	36
7.2 Raw Data and Statistical Data.....	43
7.3 Photo	
Documentation.....	46
8.0 CURRICULUM VITAE.....	51

inversely proportional with one another. This implies that the higher the amount of ITC in a wasabi paste sample, the lesser time it takes to reduce the population of *E.coli* up to 10% of the total population.

## **5.0 CONCLUSION AND RECOMMENDATION**

### **5.1 CONCLUSION**

In accordance to the results, the isothiocyanate (ITC) concentrations of different wasabi pastes were determined and samples A, B, and, C have ITC concentrations of 2.170, 1.908, 0.993 mg/g, respectively. This means that the concentrations vary at a significant level. Also the Decimal Reduction Time (D-value) of *Escherichia coli* in wasabi paste samples was determined and the D-values of samples A, B, and, C were 142.51, 170.67, and 261.99 hours, respectively. This signifies that the higher ITC concentration of wasabi paste sample yields a lower D-value which means better antimicrobial effect. Lastly, the ITC concentrations of wasabi pastes and the D-values of *E.coli* were associated. It is found that there is a 99% correlation between the ITC concentrations and the D-values.

### **5.2 RECOMMENDATION**

In consideration of the previous conclusion, the researchers would like to recommend the following:

1. The use of *Staphylococcus* and *Bacillus* species to compare their response to wasabi paste in terms of Decimal Reduction Time.
2. The use of combined food condiments such as soy sauce and wasabi to determine if it can affect the Decimal Reduction Time of *E. coli* in wasabi paste.

