

**ANTIBACTERIAL PROPERTIES OF ALCOHOLIC BEVERAGES**

An Undergraduate Thesis  
Submitted to the Faculty of the  
Biological Sciences Department  
Cavite State University  
Indang, Cavite

In partial fulfillment of  
the requirements for the degree of  
Bachelor of Science in Biology  
Major in Microbiology

**ADENETTE LINIS MEDINA**  
March 2000

## ABSTRACT

MEDINA, ADENETTE LINIS. March 2000. "Antibacterial Properties of Alcoholic Beverages". Undergraduate Thesis. Bachelor of Science in Biology, Major in Microbiology, Cavite State University, Indang, Cavite.

Adviser: Dr. Yolanda A. Ilagan

This study was conducted at the Microbiology Research Laboratory from September 1999 to February 2000. Generally, it aimed to investigate the effects of alcoholic beverages on the growth of different enteric organisms.

A total of ten samples of alcoholic beverages were used namely: Brandy, Cognac, Scotch, Vodka, Tequila, Champagne, White Wine, Gin, Rhum and Beer.

Only samples of alcoholic beverages with low alcohol content such as White Wine (9.5 percent) and Champagne (10 percent) inhibited the growth of the test organisms: *Klebsiella pneumoniae*, *Salmonella typhimurium*, *Proteus vulgaris*, *Escherichia coli* and *Enterobacter aerogenes* in the agar well assay. The rest of the alcoholic beverages, however, showed inhibitory effect when they were used pure or at 10 percent concentration in nutrient broth.

## TABLE OF CONTENTS

	<b>Page</b>
<b>BIOGRAPHICAL DATA</b> .....	iii
<b>ACKNOWLEDGMENT</b> .....	iv
<b>ABSTRACT</b> .....	vi
<b>LIST OF TABLES</b> .....	ix
<b>LIST OF FIGURES</b> .....	x
<b>LIST OF APPENDICES</b> .....	xii
<b>INTRODUCTION</b> .....	1
Importance of the Study .....	2
Objectives of the Study .....	2
Time and Place of the Study .....	3
<b>REVIEW OF RELATED LITERATURE</b> .....	4
Alcoholic Beverages .....	4
Classification of Wine .....	4
Beer .....	6
Wine and Health .....	6
Antimicrobial Properties of Some Compounds .....	7
<b>MATERIALS AND METHODS</b> .....	9
Samples .....	9
Preparation of Media and Materials .....	11
Test Organisms .....	11

Test for Inhibitory Properties .....	11
<b>RESULTS AND DISCUSSION .....</b>	<b>13</b>
Inhibitory Properties .....	13
Effect of Champagne on Different Test Organisms.....	15
Effect of Scotch on Different Test Organisms.....	19
Effect of White Wine on Different Test Organisms.....	23
Effect of Tequila on Different Test Organisms.....	28
Effect of Vodka on Different Test Organisms.....	33
Effect of Brandy on Different Test Organisms.....	37
Effect of Rhum on Different Test Organisms.....	41
Effect of Gin on Different Test Organisms.....	45
Effect of Cognac on Different Test Organisms.....	50
Effect of Beer on Different Test Organisms.....	54
<b>SUMMARY, CONCLUSION AND RECOMMENDATION .....</b>	<b>59</b>
Summary .....	59
Conclusion .....	59
Recommendation .....	59
<b>BIBLIOGRAPHY .....</b>	<b>61</b>
<b>APPENDICES .....</b>	<b>64</b>