

**PRODUCTION OF MOSQUITO REPELLENT LOTION FROM
OREGANO (*Origanum vulgare*) CRUDE EXTRACT**

A Research Study
Submitted to the Faculty of the
Science High School, College of Education
CaviteStateUniversity
Indang, Cavite

In partial fulfillment
of the requirements for graduation

**MENDOZA, BEA VALERIE A.
PANGANIBAN, KAE ANN MARY N.
SOLOMON, JHAIRON TREB F.**

April 2014

ABSTRACT

MENDOZA, BEA VALERIE A., PANGANIBAN, KAE ANN MARY N. and SOLOMON, JHAIRON TREB F. Production of Mosquito Repellent Lotion from Oregano (*Origanum vulgare*) Crude Extract. Research Study. Science High School, College of Education, Cavite State University, Indang, Cavite. April 2014. Adviser: Dr. Ammie P. Ferrer.

This study was conducted from November 2013 to January 2014 at the Research Center of Cavite State University. Specifically, the study aimed to: 1. determine the percentage yield of the crude extract from oregano; 2. identify the sensory properties of the produced lotion using the extracted essential oil from oregano in terms of odor and viscosity; 3. identify the level of acceptability of the produced lotion using the crude extract from oregano; 4. determine which treatment from the crude extract of oregano will make the best mosquito repellent; 5. determine which treatment from the crude extract of oregano will be the least acidic; and 6. determine the cost of production of the produced lotion from crude extract of oregano.

Steam distillation was used to extract the oregano. There were three treatments in the formation of the lotion containing oregano extracts only differing in the amount of the extract content. The different treatments used were the following: T₁ - 20% concentration of oregano extract; T₂ - 60% concentration of oregano extract; and T₃ - 100 % of oregano extract. Different mixtures of the components were prepared in making the lotion: 1.) 5 mL of oregano extract, 20 mL of olive oil, 10 mL of coconut oil, 6 g of beeswax; 2.) 15 mL of oregano extract, 20 mL of olive oil, 10 mL of coconut oil, 6 g of beeswax; and 3.) 25 mL of oregano extract, 20 mL of olive oil, 10 mL of coconut oil, 6 g of beeswax.

Data gathered were analyzed by getting the percentage (%) and means of the respondents. Decoded scores were then subjected to One Way Analysis of Variance (ANOVA) to determine if the treatments cause significant differences in odor, viscosity and general acceptability. Further analysis was done through Duncan Multiple Range Test to compare means among the treatments.

T₁ (20% concentration of oregano crude extract) got the highest mean in terms of odor and T₃ (100% concentration of oregano crude extract) got the highest mean in terms of viscosity. T₂ (60% concentration of oregano crude extract) got the highest mean in terms of general acceptability. In terms of the mosquito repellent property, T₃ (100% concentration of oregano crude extract) was the most effective. The pH level of the lotion treatments were 5.9. This means that the pH level of the lotion treatments were in the range of the optimum acidity of a standard lotion. The costs of production of all treatments were 261.40 pesos. This includes all the materials like olive oil, coconut oil, beeswax, lotion container and oregano leaves. Each treatment cost 87.13 pesos.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	viii
LIST OF TABLES	xi
LIST OF APPENDICES	xii
LIST OF PLATES	xiii
INTRODUCTION	1
Statement of the Problem.....	3
Significance of the Study.....	4
Objectives of the Study.....	4
Time and Place of the Study.....	5
Scope and Limitations of the Study.....	5
Definition of Terms.....	5
REVIEW OF RELATED LITERATURE	8
METHODOLOGY	17
Preparation and Gathering of Materials.....	18
Extraction of Oil from Oregano Leaves.....	18
Percentage Yield	18
Treatments.....	19
Preparation of Mixtures.....	19

	Page
Making of Lotion.....	19
Preparation of Mosquito Cage.....	20
Breeding of Mosquitoes.....	20
Choosing the Best Mosquito Repellent.....	21
Potential Hydrogen (pH) Level Test.....	21
Data Gathering.....	21
Sampling Technique.....	21
Statistical Analysis	21
Sensory Evaluation.....	22
RESULTS AND DISCUSSIONS.....	24
Percentage Yield.....	24
Sensory Properties of Oregano Mosquito Repellent Lotion	24
Odor.....	24
Viscosity.....	25
General Acceptability of Oregano Mosquito Repellent Lotion	26
General Acceptability.....	26
Choosing the Best Mosquito Repellent.....	27
pH Level of the Lotion.....	28
Cost of Production.....	29
SUMMARY, CONCLUSION, AND RECOMMENDATION.....	30
Summary.....	30
Conclusion.....	31

	Page
Recommendation.....	32
REFERENCES	33
APPENDICES	35
PLATES	41