EXTRACTION AND CHARACTERIZATION OF ESSENTIAL OIL FROM DIFFERENT KINDS OF CITRUS LEAVES

RESEARCH STUDY

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ABSTRACT

Ayos, Bryan R., Engada, Wilson M., Nuestro, Allan R., Peji, Isagani S., Applied Research IV (General Science Curriculum) Cavite State University, Indang, Cavite, March 2000 "Extraction and Characterization of Different Kinds of Citrus Leaves".

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This study entitled "Extraction and Characterization of Essential Oil from Different Kinds of Citrus Leaves" was generally conducted to extract and characterize the essential oil from lucban, orange and lemon leaves. Essential oil from different kind of citrus was obtained using simple distillation process. The percentage yield of oil obtained was 0.06% for lucban leaves and 0.108% for orange leaves but there was no essential oil extracted from lemon leaves.

The physical and chemical analysis of different essential oil was done to characterize the chemical constituent of each essential oil.

Thin- Layer Chromatography (TLC) was used to identify the chemical component of each essential oil. Essential oil from lucban leaves chromatogram indicated the presence of linalool, alpa-pinene, beta-pinene, and citronellal. Orange leave chromatogram indicated the presence of linalool and citronellal as compared with the standard.

Test for aldehydes, ketones and acids were done to further identified the

other components present in each essential oil. It was found that essential oil from lucban and orange leaves had a presence of aldehydes and the absence of ketones and acids.

TABLE OF CONTENTS

List of Table

List of Figures

List of Appendices

List of Plates

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A research study presented to the faculty of Secondary Education Laboratory School, Cavite State University, Indang, Cavite in partial fulfillment of the requirements in Applied Research IV. Prepared under the advisorship of Prof. Gliceria Masicap and Prof. Josefino A. Viado.

CHAPTER I

INTRODUCTION

Essential oil derived primarily from plants materials has distinctive natural odors. It is volatile (vaporized ready) which allows their odors to diffuse rapidly through the air. Some essential oils and their basic compounds have been made from petroleum based chemicals, but most are still manufactured from plant natural substances. The term essential is used because medieval alchemist believed that the oil is the essential part, or essence, of the plants containing them. The role played by the essential oil in plant metabolism, however, has not been determined.