

This Final Year Project entitled “**Screening of antimicrobial activity of water, flesh and leaves of *Cocos nucifera* (coconut tree)**” was submitted by Syazana binti Che Baharom, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) in Food Science and Technology, in the Faculty of Applied Sciences and was approved by

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## ABSTRACT

### SCREENING OF ANTIMICROBIAL ACTIVITY ON WATER, FLESH AND LEAVES OF *COCOS NUCIFERA*

The aim of this study is to determine the antimicrobial activity of plant extracts from coconut plant (*Cocos nucifera*) specifically from leaves, flesh and coconut water. Chosen of coconut tree is because it usually use as medicine example as medicine for asthma, fever, bloody diarrhea and many else. *Cocos nucifera* extracts have been recently reported to be effective in biological activities including antibacterial, antifungal, immune function, anticarcinogenic, antidiarrheal and many else. These activities are depending on the part of the plant. Plant extracts will be prepared by two types of extraction methods; water and solvent extraction. Antimicrobial activity will be measured by serial dilution method and disk diffusion assay. Antimicrobial activity of these extracts will be tested using microorganisms such *Staphylococcus aureus*, *Escherichia coli*, *Candida albicans*, *Pseudomonas aeruginosa* and *Streptococcus pyogenes*. The result showed that diethyl ether extract of leaves gave the largest inhibition zone against *Staphylococcus aureus*. In all tested parts of the *Cocos nucifera* have antimicrobial activity against microorganisms tested except *Candida albicans* and *Escherichia coli*. However the concentrations and part coconut plant of the extracts play an important role in determine the effectiveness of this inhibitory activity.

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Antimicrobial activity**

Antimicrobial drugs are drugs designed to kill, or prevent the growth of microorganisms (bacteria, fungi, and viruses). The history of antimicrobials begins with the observations of Pasteur and Joubert, who discovered that one type of bacteria could prevent the growth of another. They did not know at that time that the reason one bacteria failed to grow was that the other bacteria were producing an antibiotic. Technically, antibiotics are only those substances that are produced by one microorganism that kill, or prevent the growth, of another microorganism. Of course, in today's common usage, the term antibiotic is used to refer to almost any drug that cures a bacterial infection. Antimicrobials include not just antibiotics, but synthetically formed compounds as well.

Antimicrobial substance act on several target in microorganisms in order to kill or to inhibit the microorganisms growth. For example they can act on cell wall synthesis, protein synthesis, Nucleic acid synthesis, metabolic function and many else. Different antimicrobial have different action for example penicillin, cephalosporin, clavams is antibiotic that can react as inhibitors of cell wall