

THE POTENTIAL OF SUGARCANE BAGASSE AS ANTIBACTERIAL AGENT

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**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Biology
in the Faculty of Applied Sciences
Universiti Teknologi MARA**

JULY 2018

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ABSTRACT

THE POTENTIAL OF SUGARCANE BAGASSE AS ANTIBACTERIAL AGENT

Sugarcane (*Saccharum officinarum*) is one of main agricultural resources that used by various industries. It is the important raw material in production of sugar and healthy drinks for people. From the industry, a lot of leftover called sugarcane bagasse been produced in a bulk every day. For every metric tonnes of sugarcane, it can produce 270 kg of sugarcane bagasse. Improper treatment of bagasse from agricultural and industrial sector can contaminates land, water and air. The accumulation of excess baggage can bring a waste problem for the sugar industry. This study is aim to determine the potential antibacterial activity of sugarcane bagasse and to compare antibacterial activity on different concentration. The sample was extracted by using methanol extraction method. Four series of sample concentration were used, 100%, 75%, 50% and 25%. Antibacterial effects of the extract were tested on Gram positive and Gram negative bacteria. The sample was tested with Gram positive bacteria (*Bacillus subtilis* and *Staphylococcus aureus*) and Gram negative bacteria (*Escherichia coli* and *Salmonella sp.*). On both Gram positive and Gram negative bacteria, the result shows that sugarcane bagasse has the potential to be antibacterial agent and the best concentration to inhibit Gram positive and Gram negative bacteria are 100 %, 75% and 50% with the exception of *Salmonella sp.* where it can be inhibition zone presence at all concentration.

Keywords: antibacterial agent, Gram positive bacteria, Gram negative bacteria, sugarcane bagasse