

UNIVERSITI TEKNOLOGI MARA

**DIVERSITY OF ENDOPHYTIC
BACTERIA IN COCOA POD AND THEIR
ANTAGONISTIC ACTIVITY AGAINST
*Phytophthora palmivora***

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Final year project report submitted in partial fulfilment of the
requirements for the degree of

**Bachelor of Science (Hons.) Plantation Technology and
Management**

Faculty of Plantation and Agrotechnology

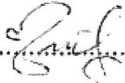
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DECLARATION

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ABSTRACT

Diversity Of Endophytic Bacteria In Cocoa Pod And Their Antagonistic Activity Against *Phytophthora Palmivora*

Theobroma cocoa L. is the most important species of the genus *Theobroma* as they speak economically in which cultured in tropical regions. However, cocoa is affected by several diseases, such as *P. palmivora* black pod rot and it is also give a serious major problem in world where cocoa be planted. This research was conducted to evaluate the diversity of endophytic bacteria in cocoa pods and to screen the potential of endophytic bacteria as biocintrol agent. The result showed that there a difference between the total number of endophytes isolated from mature and immature of cocoa pods. Where endophytic bacteria more predominant in mature pods than immature pods. *In vitro* studies through dual culture test was conducted to assess the potential of endophytic bacteria as biocontrol agents against *P. palmivora*, the pathogen of black pod disease. The endophytic bacteria were isloated from matured and immaturred cocoa pod. Results revealed same endophytic bacteria can inhibit the growth of pathogen and showed inhibit zones. Endophytic bacteria B4 and B5 were the most potential with PIRG of B4 61.25% and B5 65.83%. The culture filtrates of the test bacteria also showed that B4 and B5 able to inhibit with PIRG 93.73% and 89.25%, respectively.

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