

**POPULATION DYNAMIC AND EFFECT OF RAINFALL ON
RHINOCEROS BEETLE (*Oryctes rhinoceros*) IN OIL PALM
PLANTATION AT PEMBANGUNAN PERTANIAN MELAKA
SDN.BHD.**

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**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Bachelor of Science (Hons.) Plantation Technology And Management
Faculty of Plantation and Agrotechnology
Universiti Teknologi MARA**

JULY 2016

DECLARATION

This Final Year Project is a partial fulfilment of the requirements for a degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

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I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Science (Hons.) Plantation Technology and Management, Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA.

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ACKNOWLEDGEMENTS

Alhamdulillah and praise to Allah SWT for granting and providing me the time, good health and strength to complete this final year project.

First of all, I want to express my deep appreciation to my supervisor, Mr. Ismail Bin Rakibe for his continuous support during completing my study and research. I am indebted to him for his effort, inspiring guidance, timely advice, helpful critics and immense knowledge during this study was completed. Thanks to Mr. Muhyiddin Mustaffa for his pleasant thought, constructive criticism and his time to assist me in completing this final year project. Thanks also to all lecturer that have shared their knowledge with me regarding this final year project.

Deepest thanks and much appreciation to my parents for that not despair give their financial, support and motivation to me to complete my project. Thanks also goes to FPA 690 coordinator, Madam Wan Natasya Wan Ahmed that had shared the valuable and useful information about this courses. Also thanks to all my friends especially my fellow group mates under the same supervision of Mr. Ismail Rakibe that have shared their idea and collaborative effort. Last but not least, a biggest thanks to all those who had directly and indirectly involved in completing this final year project.

NURUL SYUHADA BINTI MOHAMAD

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ABSTRACT

POPULATION DYNAMIC AND EFFECT OF RAINFALL ON RHINOCEROS BEETLE(*Oryctes rhinoceros*)IN OIL PALM PLANTATION AT PEMBANGUNAN PERTANIAN MELAKA SDN.BHD.

Oil palm is one of the major crop in Malaysia that give high profit to country and largely contribute more to the Malaysia economy development. However there are various obstacles like pest and disease that limits the production of oil palm and its sustainability. *Oryctes rhinoceros* commonly known as the rhinoceros beetle is one of the dominant destructive pest that known to inflict serious damage on immature oil palm trees and cause significant yield loss of oil palm. *Oryctes* will readily migrate and infest an area of oil palm once replanting have conducted where there is abundance of oil palm trunk chips. This study focuses on the dynamic population of the beetle in Pembangunan Pertanian Melaka and its relations with rainfall factor. The aggregation pheromone (ethyl-4-methyloctonoate) has been used during this study where it functions for mass trapping and monitoring beetles population in PPMSB. Pheromone trap was placed about 1 trap for every 5 hectares in immature palm while 1 trap for every 2 acres in the nursery area. The result obtained shows that there is no difference in result population of beetles in immature palm and young seedlings ($P > 0.603$). The result also showed that there is very strong relationship between rainfall and beetles population (0.7275). There is not significantly relationship between rainfall and beetle population in PPMSB. This study shown that rainfall was not the main factors that influences the dynamic population of *Oryctes rhinoceros* in PPMSB as there are another factor that more dominant such as temperature, air humidity soil ph, and others.

Keywords: Major crop , Sustainability, Dynamic Population, Rainfall, Pheromone, Beetle Population.