UNIVERSITI TEKNOLOGI MARA

ORGANOPHOSPHATE & PYRETHROIDS RESISTANCE OF *AEDES ALBOPICTUS* IN SUBANG MUNICIPALITY

KHAIRUL RYZMAN BIN BAHARI

Project Submitted In Fulfillment Of the Requirement for the Degree of Bachelor of (Hons.) Environmental Health and Safety

FACULTY OF HEALTH SCIENCES

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DECLARATION BY STUDENT

Project entitled Organophosphate & Pyrethroids Resistance of *Aedes albopictus* In Subang Municipality is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Associate Professor Rodziah bt Ismail as Project Supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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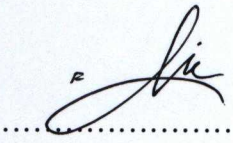
Student's Signature



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(Khairul Ryzman bin Bahari)

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Bismillahiarrahmanirrahim

I would like to express my deepest gratitude to Allah S.W.T for His blessings in giving me the opportunity to initiate and completing my study. This study could be considered as a new experience for me in exploring the other side of Environmental Health and Safety. I would also like to express my appreciation towards my supervisor, Associate Professor Rodziah bt Ismail and to my Co-Supervisor, Mr Muhammad Afiq bin Zaki in guiding me and helping me to complete this study. Thanks to my Final Year Project Coordinator with my thesis writing.

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TABLE OF CONTENTS

ABSTRACT

ORGANOPHOSPHATE & PYRETHROIDS RESISTANCE OF *AEDES ALBOPICTUS* IN SUBANG MUNICIPALITY

Khairul Ryzman bin Bahari

Introduction: Dengue Fever (DF) is transmitted through the bite of *Aedes* mosquito. Cases of DF have increased globally and have become endemic especially in Asian region. In Selangor especially in Subang Jaya have increases day by day. This might due to the repeated use of chemical towards the mosquitoes. **Objective**: This study focused on the knockdown rates and mortality rates of mosquitoes being exposed to the commonly used insecticide in hotspot and non-hotspot areas at Subang Jaya Municipality. **Method:** Four administrative zones were selected as study locations which are Subang Jaya, Kinrara, Seri Kembangan and Seri Serdang and for each admin zone 3 hot spot and 3 non-hotspot areas were selected. Ovitraps were placed at each administrative zone that has been identified as dengue prone areas. The eggs were reared until it emerged into adults. Specific species, which is female *Aedes albopictus* were chosen to be exposed to the commonly insecticide, malathion, permethrin, deltamethrin and lambdacyluthrine using WHO Bioaassay Test Kit. Time taken for knockdown rates and mortality rates were recorded and analyzed using Probit analysis. All the results then were illustrated in the graph. **Results**: The knockdown rate of *Aedes albopictus* from HS areas was higher compared to the non-hotspot area especially when they are exposed to malathion while the mortality rate for most of non-hotspot areas indicates susceptibility to the mosquitoes. **Conclusion**: Repeated uses of chemical exposure towards mosquitoes affect the resistance status.

Keywords: *Mortality rate, Knockdown rate, Hotspot, Non-hotspot*