

UNIVERSITI TEKNOLOGI MARA

**ORGANOPHOSPHATE & PYRETHROIDS
RESISTANCE OF *Aedes albopictus* IN
SUBANG MUNICIPALITY**

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

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DECLARATION BY STUDENT

Bismillah

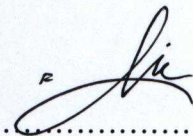
I would like to express my deepest gratitude to Allah S.W.T for His blessings

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).

My thanks also go to Subang Jaya Municipal Council (MPSJ), for their cooperation in sampling and also for the information that has been given to me as reference and guidance for me in analyzing my data and producing the results.

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ABSTRACT

ORGANOPHOSPHATE & PYRETHROIDS RESISTANCE OF *Aedes albopictus* IN SUBANG MUNICIPALITY

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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. Ovitrap 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 Bioassay 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*