# UNIVERSITI TEKNOLOGI MARA

# INDOOR AND OUTDOOR DEVELOPMENT OF *AEDES ALBOPICTUS* (DIPTERA: CULICIDAE) IN DIFFERENT TYPES OF WATER HOLDING CONTAINER

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Project submitted in fulfilment of the requirements for
the degree of
**Bachelor in Environmental Health and Safety**
**(Hons.)**

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# DECLARATION BY STUDENT

Project entitled "Indoor and Outdoor Development of *Aedes Albopictus* (Diptera: Culicidae) in different types of Water Holding Container" is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, Dr. Nazri Che Dom. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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# ABSTRACT

*Aedes* species now are rapidly adapting to environmental changes which subsequently change the water container preferences for breeding. In the present study, the rate of development of immatures of *Aedes albopictus* are evaluated based on the effect of type of water holding containers and the temperature of each of the selected type of water holding containers in two different settings (indoor and outdoor). Wild strain of *Ae. albopictus* eggs and the water used in all of the selected type of water holding containers were collected from within UiTM Puncak Alam areas. The selected type of water holding containers are tire (rubber), jar (glass), coconut shell (wood), bottle (plastic) and can (aluminium). Environmental temperature (wet, dry, globe, relative humidity and humidex) and wind velocity of both indoor and outdoor setting for the selected containers to be allocated were taken. Temperature of each type of selected type of water holding containers were taken in both indoor and outdoor setting. Immatures stage of *Ae. albopictus* (larvae) were allocated in each of the selected type of containers and the development were observed until all allocated larvae either developed or expired. Finding of this study shows that development of larvae into pupae only occurred in two type of water holding containers for both setting that is tyre (rubber) and coconut shell (wood). There is a significant difference in rate of developing against the type of water holding containers (p-value <0.05). This study concludes that, temperature does plays an important role to the development and survival of immatures *Ae. albopictus*.

**Keywords:** *Aedes albopictus, indoor container, outdoor container, immature stages, temperature*