

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT CYCLE OF
SELECTED STRAINS OF
Aedes Aegypti (LINNAEUS)
BASED ON WATER TEMPERATURE
AND TYPE OF CONTAINERS**

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

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DECLARATION BY STUDENT

Project entitled “Development cycle of selected strains of *Aedes aegypti* (Linnaeus) based on water temperature and type of containers” 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 bin 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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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Vector borne diseases has been partially associated with the current changes of global warming which can be included water temperatures and type of containers. This study was conducted to determine the effect of increase water temperature on the development of *Aedes aegypti* immatures under laboratory condition using temperature regulated water bath to cover a range of temperature from 25°C to 35°C. Two experiments were designed: (1) for local strain of *Aedes aegypti* (SEL-strain, JHR-strain, and SBH-strain) and four types of container under setting temperature regimes. The containers that were collected are tire, plastic, glass and coconut shell. The experiments were conducted under presence of larvae food. The analysis is based on observation of the immature stage development (days) in response to different water temperatures and type of containers. The general profile of the larval development based on water temperatures and container's type were tabulated using mean number. The larval development to pupa was the fastest when the water temperatures increasing and also led by coconut shell in term of water container. In conclusion, the water temperature and type of containers were significantly (p -value < 0.05) affect the larval development days. This study concludes that the knowledge on the larval development's factor is important in dengue control especially on the larval development days of *Ae. aegypti*.

Keywords: *Aedes aegypti*, water temperatures, immature stages, container's type, pupae emergence, development days