

UNIVERSITI TEKNOLOGI MARA

**INDOOR AND OUTDOOR
DEVELOPMENT OF *Aedes aegypti*
(LINNAEUS) IN DIFFERENT TYPES
OF WATER HOLDING CONTAINER**

SHAHRUL AZLIZAN BIN SHAH BRANDA

Project submitted in fulfillment of the requirements
for degree of
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(Hons),**

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DECLARATION BY STUDENT

Project entitled “Indoor and Outdoor Development of *Aedes aegypti* (Linnaeus) 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 fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

Student’s Signature:

.....
(SHHRUL AZLIZAN BIN SHAH

BRANDA)

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In the name of Allah, The Most Gracious, The Most Merciful.

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ABSTRACT

Background: *Aedes* mosquitoes contribute to the dengue fever all around the world. But in Malaysia, there are two species of the *aedes* mosquitoes that transmitted the dengue fever namely *Ae. albopictus* and *Ae. aegypti* which is the major vector of dengue fever whether in urban or rural area. The lifecycle begin when female *Aedes* mosquito laid eggs in wet containers. In a right condition of the water and temperature surrounding, the egg hatch become larvae. The aim of the study is to assess the effect of temperature on standardized container habitat on the development of immature stage of *Ae. aegypti*. **Methodology:** This experimental field study was conducted at insectarium Uitm Puncak Alam Campus where the setting for indoor in the room inside the insectarium while for outdoor is under the tree outside the insectarium. The sampling was done using the experimental field study method to examine the relationship between water temperature in the standardized container habitat and the development of immature stage of *Ae. aegypti* mosquitoes in the different setting. The means of the rate of growth of mosquito larvae and water temperature will be analyzed using Two-way ANOVA with correction for post-hoc multiple comparisons using the Dunnett test 2 sided. **Results:** The findings show the range of temperature inside the container is between 25°C to 30°C depending on the type of material of the container. The rate of development of the immature stages of *Ae. aegypti* inside different type of container is slightly different as indoor and outdoor setting. The rate of development at outdoor setting is slightly faster than at indoor setting for all the larvae to become pupae. The type of container that be used for indoor and outdoor also show the different rate of development as outdoor is faster. The result prove that it is significant between temperature with rate of development as the p-value of Two-Way ANOVA is <0.05. **Conclusion:** There strong association between temperatures in standardized container to the development of immature stage of *Ae. aegypti*. The depth of knowledge about the environmental factor especially the effect of temperature to different type of standardized container should be increased as it provide the suitable condition to the dengue vector to breed.

Keywords: *Aedes aegypti*, Standardized Container, Immature Stage, Indoor and Outdoor Settings