

**UNIVERSITY TEKNOLOGI MARA**

**A COMPARATIVE STUDY ON LIFE  
TABLE CHARACTERISTICS OF  
*AEDES ALBOPICTUS* FROM HOT  
SPOT AND NON-HOT SPOT, SHAH  
ALAM**

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for the degree of**

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Safety**

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## Declaration by Student

Project entitled A Comparative Study on Life Table of *Aedes albopictus* Between Hot Spot and Non-hot Spot at Shah Alam 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 carried out under the guidance of Associate Professor Rodziah binti Ismail as Project Supervisor and Mr. Muhammad Afiq Bin Zaki as Project Advisor. 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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## ABSTRACT

### A Comparative Study on Life Table Characteristics of *Aedes albopictus* from Hot Spot and Non-Hot Spot, Shah Alam

Aneesah binti Adam

**Introduction:** Vector-borne diseases have contributed to many human fatalities such as dengue fever. Fortunately, the most probable technique to encounter diseases caused by vectors especially mosquitoes is to control the population itself. The number of dengue cases has increased every week contributing to the increased in hot spot thus affected the life cycles of immature and adult mosquitoes. Environmental factors taint the growth of mosquitoes including their immature aquatic stage by which the immature development stage and adult longevity is rapid in urban areas.

**Methods:** Ovitrap were setup at four different localities in Shah Alam administrative zones with two hot spots (HS) and two non-hot spots (NHS). Positive ovitrap index, number of eggs per positive ovitrap, duration of immature aquatic stage and longevity of adult *Aedes albopictus* mosquitoes were analyzed for the purpose of the research.

**Results:** *Aedes albopictus* at HS laid more eggs compared to those from NHS but was not significantly different ( $p=0.958$ , 95% CI -1.618, 1.708). HS has higher percentage of positive ovitrap index (46.4%) compared to NHS (36.7%). The duration of immature stages were insignificant between HS and NHS ( $p = 0.06$ ), where NHS has higher mean. The survival rate of adult mosquito for HS was higher compared to NHS. However, there was a significant difference between HS and NHS in adult mosquito longevity ( $p = 0.00$ ) whereby HS has a higher mean.

**Conclusion:** There was a significant difference between the longevity of adult *Aedes albopictus* mosquitoes from HS and NHS but not for number of eggs and duration of immature stage and HS has higher positive ovitrap index than NHS.

**Keywords:** *Aedes albopictus*, positive ovitrap index, duration of immature aquatic stage, longevity, survival rate, hot spot, non-hot spot.