



**COMPARISON OF DIFFERENT HEATING MATERIALS FOR  
THE DEVELOPMENT OF AN ARTIFICIAL FEEDING METHOD  
FOR *Aedes albopictus***

**By  
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## DECLARATION

I hereby declare that this thesis is my original work and has not been submitted previously or currently for any other degree at UiTM or any other institutions.

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## ABSTRAK

### PERBANDINGAN DI ANTARA BAHAN PEMANAS BERBEZA BAGI PEMBUATAN KAEDAH MEMBERI MAKAN ARTIFISIAL UNTUK *Aedes albopictus*

Rasional penggunaan selaput pemberi makan artifisial adalah bagi mengurangkan penggunaan haiwan seperti tikus dalam kaedah memberi makan secara langsung untuk nyamuk menghisap darah. Kajian ini fokus kepada uji kaji minyak sayuran, air, dan gliserol bagi menentukan bahan pemanas terbaik untuk selaput pemberi makan artifisial dan bagi menentukan kadar pemakanan serta bertelur di antara nyamuk yang menghisap darah melalui kaedah memberi makan secara langsung (DHF) dan kaedah memberi makan artifisial (AF). Bahan-bahan pemanas diuji kaji dengan memanaskan bahan-bahan pemanas ke  $\sim 80^{\circ}\text{C}$  dan  $\sim 50^{\circ}\text{C}$  untuk memanaskan darah ke  $37\pm 1^{\circ}\text{C}$  serta untuk mengekalkan suhu pada  $37\pm 1^{\circ}\text{C}$ , masing-masing. Nyamuk diberi makan selama 15 minit bagi kedua-dua kaedah dan telur yang dihasilkan dikira sehingga tujuh hari selepas sesi memberi makan. Kadar memberi makan dan bertelur di analisa dengan menggunakan "independent t test". Bahan pemanas yang terbaik adalah gliserol dan terdapat perbezaan ketara bagi kedua-dua kadar memberi makan ( $6.67\pm 6.67\%$  bagi DHF(r) dan  $26.67\pm 6.67\%$  bagi AF) serta kadar bertelur ( $3.13\pm 1.59$  telur bagi DHF dan  $29.38\pm 2.9$  telur bagi AF) untuk kedua-dua kaedah di mana nilai  $P < 0.05$ , masing-masing. Walaubagaimanapun, telur yang dihasilkan dari kaedah AF (235 telur daripada 8 ekor nyamuk) masi cukup bagi pemeliharaan koloni nyamuk dan dengan penambahan saiz sampel bagi kedua-dua parameter, hasilnya dijangka meningkat. Konklusinya, selaput pemberi makan artifisial mencukupi untuk dijadikan sebagai kaedah alternatif dalam memberi makan nyamuk untuk tujuan penyelidikan.

**Kata Kunci:** *Aedes albopictus*, pemberi makan artifisial, bahan pemanas, kadar pemakanan, kadar bertelur.