

**COMPARISON OF THE EFFECTIVENESS OF WULUH STARFRUIT  
LEAF EXTRACT AND BASIL LEAF ON THE MORTALITY OF THIRD  
INSTAR LARVAE (*Aedes aegypti*)**

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**ABSTRACT**

Larvicides can be used to control DHF by killing mosquito larvae. Starfruit and basil contain compounds that are lethal to larvae. The purpose of this study was to compare the effectiveness of starfruit leaf extract and basil leaves extract on the mortality of the third instar *Aedes aegypti* mosquito larvae.

This research is an experiment with Posttest Only Control Group design. The treatment group was given a concentration of 8% starfruit leaf extract and 8% basil leaf extract with 9 replications. The control group in this study was a negative control without any treatment. Data were analyzed using Independent Sample T-Test to determine the difference in mean between the test groups and the Pearson Bivariate Correlation to test the correlation of temperature and pH on the mortality of *Aedes aegypti* larvae.

The results of the Independent Sample T-Test test showed p value  $0.332 > 0.05$ , which means that there was no difference in the average mortality of larvae in the 8% starfruit leaf extract group and 8% basil leaf extract group. The results of the Pearson Bivariate Correlation test obtained p value  $> 0.05$ , which means that there is no correlation between water pH and water temperature on larval mortality in the starfruit leaf extract and basil leaf extract groups.

Larvicides from starfruit leaf extract and basil leaves had no difference in killing the larvae of the third instar *Aedes aegypti* mosquito. For further research, it is hoped that further research can be carried out on the effective concentration of starfruit leaf extract and basil leaf extract in killing *Aedes aegypti* mosquito larvae.

**Keywords:** Wuluh starfruit leaf extract and basil leaf, *Aedes aegypti* mosquito larvae

**PERBANDINGAN EFEKTIVITAS EKSTRAK DAUN BELIMBING WULUH DAN DAUN KEMANGI TERHADAP KEMATIAN LARVA INSTAR III NYAMUK (*Aedes aegypti*)**

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**ABSTRAK**

Pengendalian penyakit DBD dapat berupa larvasida sebagai pembunuh larva nyamuk. Tanaman belimbing wuluh dan kemangi diketahui mengandung senyawa yang bersifat mematikan larva. Adapun tujuan penelitian ini adalah membandingkan efektifitas ekstrak daun belimbing wuluh dan ekstrak daun kemangi terhadap kematian larva nyamuk *Aedes aegypti* instar III.

Penelitian ini berjenis penelitian eksperimen dengan desain *Posttest Only Control Group*. Kelompok perlakuan diberikan ekstrak daun belimbing wuluh konsentrasi 8% dan ekstrak daun kemangi konsentrasi 8% dengan replikasi sebanyak 9 kali. Kelompok kontrol pada penelitian ini adalah kontrol negatif tanpa diberikan perlakuan. Data dianalisis menggunakan *Independent Sample T-Test* untuk mengetahui adanya perbedaan rata-rata di kelompok uji dan uji *Korelasi Bivariate Pearson* untuk menguji korelasi suhu serta pH terhadap kematian larva *Aedes aegypti*.

Hasil uji *Independent Sample T-Test* didapatkan nilai  $p = 0,332 > 0,05$  yang berarti tidak ada perbedaan rata-rata kematian larva pada kelompok ekstrak daun belimbing wuluh 8% dan pada kelompok ekstrak daun kemangi 8%. Dari hasil uji *Korelasi Bivariate Pearson* didapatkan nilai  $p > 0,05$  yang berarti tidak terdapat korelasi pH air serta suhu air terhadap kematian larva pada kelompok ekstrak daun belimbing wuluh maupun ekstrak daun kemangi.

Larvasida dari ekstrak daun belimbing wuluh dan daun kemangi tidak memiliki perbedaan dalam mematikan larva nyamuk *Aedes aegypti* instar III. Untuk penelitian selanjutnya diharapkan dapat melakukan penelitian lebih lanjut pada konsentrasi efektif ekstrak daun belimbing wuluh maupun ekstrak daun kemangi dalam mematikan larva nyamuk *Aedes aegypti*.

**Kata kunci:** Ekstrak daun belimbing wuluh dan daun kemangi, larva nyamuk *Aedes aegypti*