

**POLITEKNIK KESEHATAN KEMENKES TANJUNGPINANG  
PROGRAM STUDI SANITASI LINGKUNGAN PROGRAM SARJANA TERAPAN  
JURUSAN KESEHATAN LINGKUNGAN**

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**“UJI EFEKTIVITAS BIOLARVASIDA EKSTRAK ETANOL KULIT  
PISANG KEPOK (*Musa paradisiaca L.*) TERHADAP LARVA INSTAR III  
NYAMUK *Aedes aegypti* DENGAN PERHITUNGAN LC90 DAN LT90”**

xvi + 58 halaman, 11 tabel, 13 gambar, 1 grafik, dan 9 lampiran

**ABSTRAK**

Demam Berdarah Dengue (DBD) merupakan penyakit akibat gigitan nyamuk betina *Aedes aegypti*. Pemberantasan larva umumnya menggunakan abate yang dapat merusak lingkungan. Untuk itu dibuat larvasida dari limbah kulit pisang kepok (*Musa paradisiaca L.*) Lampung sebagai limbah terbanyak ketiga di Indonesia yang mengandung flavonoid, tanin, dan alkaloid sebagai larvasida.

Tujuan penelitian ini mencari konsentrasi, waktu, serta kadar senyawa metabolit sekunder yang paling efektif dalam membunuh stadium infeksiif nyamuk *Aedes aegypti*. Desain penelitian: Rancangan Acak Lengkap (RAL) menggunakan metode ekstraksi dengan pelarut etanol, konsentrasi 11%, 12%, 13%, 14%, dan 15% sebanyak 5 kali pengulangan dan 2 kontrol, yaitu kontrol positif (abate) dan negatif (aquadest).

Data diolah menggunakan uji anova untuk mengetahui apakah pemberian larutan ekstrak etanol kulit pisang kepok berpengaruh terhadap kematian larva *Aedes aegypti* dengan hasil  $\text{sig}=0,000$  berpengaruh kuat. Dilanjutkan uji probit untuk mengetahui LC90 ekstrak etanol dengan hasil  $e=16,147$  atau 16,1% konsentrasi yang paling efektif dalam membunuh 90% larva populasi. Kemudian dilanjutkan uji probit untuk mengetahui LT90 ekstrak etanol dengan hasil  $e=6,664$  atau 6 jam waktu yang paling efektif dalam membunuh 90% larva populasi.

Kata Kunci : Efektivitas, larva *Aedes aegypti*, kulit pisang kepok (*Musa paradisiaca L.*), ekstrak, LC90 dan LT90

Daftar Bacaan : 45 (2009-2023)

**TANJUNGPURBA HEALTH POLYTECHNIC  
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**“EFFECTIVENESS TEST OF THE BIOLARVICIDE ETHANOL EXTRACT OF KEPOK BANANA PEEL (*Musa paradisiaca* L.) AGAINST THIRD INSTAR LARVAE OF MOSQUITOES *Aedes aegypti* WITH LC90 AND LT90 CALCULATIONS”**

*xvi + 58 pages, 11 tables, 13 figures, 1 chart, and 9 attachments*

**ABSTRACT**

*Dengue Hemorrhagic Fever (DHF) is a disease caused by the bite of the female *Aedes aegypti* mosquito. Eradication of larvae generally uses abate which can damage the environment. For this reason, larvicide is made from the waste of Kepok banana peels (*Musa paradisiaca* L.) Lampung as the third most abundant waste in Indonesia which contains flavonoids, tannins and alkaloids as larvicide.*

*The aim of this research is to find the concentration, time and levels of secondary metabolite compounds that are most effective in killing the infective stage of the *Aedes aegypti* mosquito. Research design: Completely Randomized Design (CRD) using the extraction method with ethanol solvent, concentrations of 11%, 12%, 13%, 14%, and 15% for 5 repetitions and 2 controls, namely positive (abate) and negative (aquadest).*

*The data was processed using the anova test to determine whether the administration of a kepok banana peel ethanol extract solution had an effect on the death of *Aedes aegypti* larvae with a result of  $\text{sig} = 0.000$  which had a strong effect. The probit test was continued to determine the LC90 of the ethanol extract with the result  $e=16.147$  or 16.1%, the most effective concentration in killing 90% of the population larvae. Then proceed with the probit test to determine the LT90 ethanol extract with the result  $e=6.664$  or 10 hours which is the most effective time in killing 90% of the population larvae.*

*Keywords : Effectiveness, *Aedes aegypti* larvae, kepok banana peel (*Musa paradisiaca* L.), extract, LC90 and LT90*

*Reading List : 45 (2009-2023)*