

**POLTEKKES KEMENKES TANJUNGPINANG
JURUSAN TEKNOLOGI LABORATORIUM MEDIS
PROGRAM STUDI TEKNOLOGI LABORATORIUM MEDIS
PROGRAM SARJANA TERAPAN**

Skripsi, Juni 2025

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**Uji Efektivitas Biolarvasida Kulit Pisang Kepok (*Musa paradisiaca L.*)
Melalui Ekstraksi Bertingkat Menggunakan Kloroform dan Metanol
terhadap Larva Instar III Nyamuk *Aedes aegypti***

xvi + 45 halaman + 7 tabel + 8 gambar + 21 lampiran

ABSTRAK

Demam Berdarah Dengue (DBD) merupakan penyakit menular yang masih menjadi masalah kesehatan serius di Indonesia. Penggunaan larvasida sintesis seperti Abate (*Temephos*) sebagai upaya pengendalian vektor nyamuk *Aedes aegypti* diketahui dapat menimbulkan resistensi serta dampak negatif terhadap lingkungan. Oleh karena itu, diperlukan alternatif larvasida alami yang efektif dan ramah lingkungan. Penelitian ini bertujuan untuk mengetahui efektivitas ekstrak bertingkat kloroform dan metanol dari kulit pisang kepok (*Musa paradisiaca L.*) terhadap larva instar III *Aedes aegypti*. Penelitian dilakukan secara eksperimental dengan Rancangan Acak Lengkap (RAL) menggunakan lima variasi konsentrasi ekstrak (6%, 7%, 8%, 9%, dan 10%) serta kontrol positif (Abate 1%) dan kontrol negatif (*aquadest*). Hasil penelitian menunjukkan bahwa semakin tinggi konsentrasi dan waktu kontak, maka angka kematian larva *Aedes aegypti* juga meningkat. Konsentrasi 10% menunjukkan efektivitas tertinggi dengan mortalitas 100% dalam waktu 12 jam. Uji regresi menunjukkan hubungan yang sangat kuat antara konsentrasi dan waktu kontak dengan kematian larva ($R^2 = 0,918$ dan $R^2 = 0,960$), sedangkan uji sensitivitas dan spesifisitas menunjukkan nilai optimal sebesar 100% pada konsentrasi tertinggi (10%). Berdasarkan hasil tersebut, ekstrak bertingkat kloroform dan metanol kulit pisang kepok terbukti efektif sebagai biolarvasida alami dan dapat dijadikan alternatif larvasida nabati dalam pengendalian nyamuk *Aedes aegypti* yang ramah lingkungan.

Kata Kunci : Uji Efektivitas, Kombinasi Ekstrak Bertingkat Kloroform dan Metanol, Kulit Pisang Kepok, Larva *Aedes aegypti*.
Daftar Bacaan : 54 (2013-2024).

**TANJUNGKARANG MINISTRY OF HEALTH POLYTECHNIC
DEPARTMENT OF MEDICAL LABORATORY TECHNOLOGY
MEDICAL LABORATORY TECHNOLOGY STUDY PROGRAM
APPLIED GRADUATE PROGRAM**

Thesis, June 2025

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Test of the Effectiveness of Kepok Banana Peel Biolarvicide (*Musa paradisica L.*) Through Multilevel Extraction Using Chloroform and Methanol on Instar III Larvae of *Aedes aegypti* Mosquitoes

xvi + 45 Pages + 7 tables + 8 Figures + 21 Attachments

ABSTRAK

Dengue Hemorrhagic Fever (DHF) is an infectious disease that is still a serious health problem in Indonesia. The use of synthetic larvicides such as Abate (*Temephos*) as an effort to control the *Aedes aegypti* mosquito vector is known to cause resistance and negative impacts on the environment. Therefore, an alternative natural larvicide that is effective and environmentally friendly is needed. This study aims to determine the effectiveness of chloroform and methanol graded extracts from kepok banana peel (*Musa paradisica L.*) on instar III larvae of *Aedes aegypti*. The study was conducted experimentally with a Completely Randomized Design (CRD) using five variations of extract concentration (6%, 7%, 8%, 9%, and 10%) as well as positive controls (Abate 1%) and negative controls (*aquadest*). The results showed that the higher the concentration and contact time, the higher the mortality rate of *Aedes aegypti* larvae. A concentration of 10% showed the highest effectiveness with 100% mortality within 12 hours. Regression test showed a very strong relationship between concentration and contact time with larval mortality ($R^2 = 0.918$ and $R^2 = 0.960$), while sensitivity and specificity tests showed an optimal value of 100% at the highest concentration (10%). Based on these results, the *chloroform* and *methanol* extracts of kepok banana peels have proven to be effective as natural biolarvicides and can be used as an alternative botanical larvicide in environmentally friendly *Aedes aegypti* mosquito control.

Keywords : Effectiveness Test, Combination of Chloroform and Methanol Graded Extract, Kepok Banana Peel, *Aedes aegypti* Larvae.

Reading list : 54 (2013-2024).