POLITEKNIK KESEHATAN TANJUNGKARANG
JURUSAN KESEHATAN LINGKUNGAN
PROGAM STUDI SANITASI LINGKUNGAN
PROGRAM SARJANA TERAPAN

Skripsi, Mei 2023

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Efektivitas Ekstrak Daun Sirih (*Piper Betle, Linn*) Sebagai Larvasida Pada Larva Nyamuk *Aedes aegypti*

xviii + 82 halaman + 16 tabel + 9 gambar + 2 grafik dan 19 lampiran

ABSTRAK

Demam erdarah *dengue* (DBD) adalah penyakit menular yang diakibatkan oleh virus *dengue* dan disebar luaskan oleh vektor nyamuk spesies *Aedes aegypti* dan *Aedes albopictus*, Karakteristik vektor penular menentukan persebaran dan waktu kejadian infeksi. Habitat nyamuk *Aedes* pada umumnya berada di wilayah dengan iklim tropis, curah hujan tinggi, serta suhu panas dan lembap. Nyamuk *Aedes* menyukai genangan atau tempat penampungan air seperti selokan, vas atau pot tanaman, tempat minum hewan peliharaan, kolam renang, atau tempat sampah sebagi tempat perindukan. Tujuan penelitian ini adalah untuk mengetahui kemampuan ekstrak daun sirih (*Piper betle, linn*) sebagai larvasida pada larva nyamuk *Aedes aegypty* dan konsentrasi yang dapat mematikan larva *Aedes aegypti* sebesar 50% (LC_{50}).

Jenis penelitian eksperimen dengan Rancangan Acak Lengkap (RAL) dan 2 kali pengulangan. Penelitian dilaksanakan di Laboratorium Politeknik Kesehatan Tanjung Karang Jurusan Kesehatan Lingkungan pada bulan April 2023. Pengambilan sampel dengan cara randomisasi blok (undian). Variabel bebas yaitu konsentrasi (0% sebagai kontrol, 4%, 8%, 12%, 16% sebagai perlakuan) ekstrak daun sirih (*Piper betle, linn*) dan waktu kontak 4 jam, 8 jam, 16 jam, 24 jam, variabel terikat yaitu jumlah kematian larva *Aedes aegypti*.

Hasil penelitian mendapatkan p-value = 0,000 (p-value < α = 0,05) dan nilai R square sebesar 0,704 menunjukkan bahwa konsentrasi ekstrak daun sirih (*Piper betle, linn*) memiliki pengaruh terhadap kematian larva nyamuk *Aedes aegypti* sebesar 70,4%. Konsentrasi yang dapat mematikan 50% larva nyamuk *Aedes aegypti* (LC_{50}) yaitu pada konsentrasi 8%.

Kata kunci : *Aedes aegypti,* daun sirih, larvasida
Daftar bacaan : 32 (2012 – 2022)

HEALTH POLYTECHNIC OF TANJUNGKARANG
DEPARTMENT OF ENVIRONMENTAL HEALTH
PROGRAM STUDY APPLIED BACHELOR
ENVIRONMENT SANITATION

Thesis, May 2023

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Effectiveness of Betel Leaf Extract (*Piper Betle, Linn*) as Larvicidal on *Aedes aegypti* Mosquito Larvae

xviii + 82 pages + 16 tables + 9 pictures + 2 chart and 19 attachments

ABSTRAK

Dengue hemorrhagic fever (DHF) is an infectious disease caused by the dengue virus and is spread by mosquito vectors of the *Aedes aegypti* and *Aedes* albopictus species. The characteristics of the transmitting vector determine the distribution and timing of the infection. The habitat of the Aedes mosquito is generally in areas with a tropical climate, high rainfall, and hot and humid temperatures. The *Aedes* mosquito likes puddles or water reservoirs such as gutters, vases or plant pots, pet drinkers, swimming pools or trash cans as breeding places. The purpose of this study was to determine the ability of betel leaf extract (*Piper betle, linn*) as a larvicidal on *Aedes aegypti* mosquito larvae and the concentration that can kill Aedes aegypti larvae was 50% (LC_{50}).

This type of experimental research with completely randomized design (CRD) and 2 repetitions. The research was conducted at the Tanjung Karang Health Polytechnic Laboratory, Department of Environmental Health in April 2023. Sampling was taken by block randomization (lottery). The independent variable is concentration (0% as control, 4%, 8%, 12%, 16% as treatment) betel leaf extract (Piper betle, linn) and contact time 4 hours, 8 hours, 16 hours, 24 hours, the dependent variable namely the number of deaths of Aedes aegypti larvae.

The results of the study obtained a p-value = 0.000 (p-value < α = 0.05) and an R square value of 0.704 indicating that the concentration of betel leaf extract (Piper betle, linn) had an effect on the death of Aedes aegypti mosquito larvae by 70.4% . The concentration that can kill 50% of Aedes aegypti mosquito larvae (LC50) is at a concentration of 8%.

Keywords : *Aedes aegypti*, betel leaf, larvicides
Reading list : 32 (2012 – 2022)