

ABSTRAK

Widjaya, Yovita Amalia. 2015. **Uji Potensi Ekstrak Ethanol Akar Alang-Alang (*Imperata cylindrica*) sebagai Insektisida terhadap Nyamuk *Culex sp.*** Tugas Akhir. Fakultas Kedokteran Universitas Brawijaya. Pembimbing: (1) Dr. dr. Loeki Enggar Fitri, M.Kes, Sp.ParK. (2) dr. Ratih Paramita S., M.Biomed

Nyamuk *Culex sp.* merupakan vektor biologis *Filariasis*, *Japanese B encephalitis*, dan demam *Chikungunya* yang masih menjadi masalah kesehatan yang serius di Indonesia. Salah satu cara pemberantasan nyamuk yang paling sering adalah menggunakan insektisida kimiawi, tetapi dilaporkan terjadi resistensi vektor nyamuk. Oleh karena itu, diperlukan insektisida alternatif yang lebih aman yaitu menggunakan tumbuhan, salah satunya akar alang - alang (*Imperata cylindrica*). Kandungan akar alang - alang (*Imperata cylindrica*) yang diduga berpotensi sebagai insektisida adalah *flavonoid* dan *isoeugenol*. Penelitian ini bertujuan untuk mengetahui potensi insektisida ekstrak etanol akar alang - alang (*Imperata cylindrica*) dalam membunuh nyamuk *Culex sp.* Sampel yang digunakan adalah 25 ekor nyamuk *Culex sp.* tiap perlakuan. Perlakuan yang digunakan yaitu ekstrak akar alang - alang sebesar 30%, 40%, 50%, kontrol negatif (Aquades), dan kontrol positif (larutan malathion 0,28%) yang disemprotkan sekali di dalam tiap kandang perlakuan. Pengulangan dilakukan 4 kali pada interval waktu pengamatan yaitu jam ke-1, ke-2, ke-3, ke-4, ke-5, ke-6, dan ke-24. Hasil yang didapatkan menunjukkan terdapat hubungan yang kuat antara konsentrasi ekstrak akar alang-alang dengan potensi insektisida. Semakin tinggi konsentrasi ekstrak akar alang - alang (*Imperata cylindrica*) maka potensi insektisida semakin besar. Meskipun begitu, ekstrak etanol akar alang - alang (*Imperata cylindrica*) kurang efektif sebagai insektisida terhadap nyamuk *Culex sp.* dikarenakan tingginya konsentrasi ekstrak yang dibutuhkan.

Kata kunci : *Imperata cylindrica*, insektisida, *Culex sp.*

ABSTRACT

Widjaya, Yovita Amalia. 2015. **Potential Test of Cogongrass Root (*Imperata cylindrica*) Extract as an Bioinsecticide to *Culex sp.* Mosquito**. Final Assignment. Medical Faculty of Brawijaya University. Supervisors: (1) Dr. dr. Loeki Enggar Fitri, M.Kes, Sp. Park. (2) dr. Ratih Paramita S., M. Biomed

Culex sp. mosquito is biological vector of Japanese *B encephalitis*, and *Chikungunya* fever that still become a seriously health problem in Indonesia. One of most frequent ways for demolish mosquito is by using syntetic insecticide, but it has reported that there was a significant developing of insecticide resistency. Therefore, alternative insecticide from natural substance is needed such as Cogongrass root (*Imperata cylindrica*). *Imperata cylindrica* compotitions that are expected to be most potencial insecticide were *flavonoid* and *isoeugenol*. The aimed of this research was to determine the potential of insecticide ethanol extract of cogongrass root (*Imperata cylindrica*) against *Culex sp.* Samples used were 25 mosquitoes in every repeation for each treatment. The treatments used were cogongrass extract – various concentration 30%, 40%, 50%, aquades as a negative control, malathion solution 0,28% as a positive control. This treatments were sprayed once in each cage. Repeation was conducted four times in observation time interval hour 1st, 2nd, 3rd, 4th, 5th, 6th, and 24th. The results obtained indicated there was a strong relationship between the concentration of extract cogongrass with potential insecticide. The higher the concentration of cogongrass extract (*Imperata cylindrica*), the greater the potential insecticides. Nevertheless, the ethanol extract of the roots of cogongrass (*Imperata cylindrica*) is less effective as an insecticide against mosquito *Culex sp.* due to the high concentration of extract required.

Keywords : *Imperata cylindrica*, insecticide, *Culex sp.*