

ABSTRACT

Background, Dengue Hemorrhagic Fever (DHF) is still one of the most health problems in Indonesia. *Aedes aegypti* mosquito is the main vector of DHF in Indonesia. The use of chemical (synthetic) insecticide may result vector resistant, death of non-target, insecticide residue, and environmental pollution. Celery (*Apium graveolens*) contains of flavonoids, saponins, and tannins. Thus, celery leaf has potential as natural larvicide against *Ae. aegypti* larvae.

Objective, To explore the larvicidal effect of celery leaf (*Apium graveolens*) against *Ae. aegypti* larvae. To find out the relation between concentration and mortality of larvae.

Method, This research was quasi experimental with post test only control group design. Initial test was held with 6 treatment groups and 2 control groups, each groups consisted of 10 larvae. After 24 hours of exposure, 10-90% mortality of larva was counted. In the final test, 9 variances of concentration were determined based on result of initial test. Final test was replicated 3 times. The mortality of larvae was counted after 24 hours of exposure and the data was analyzed using Probit analysis.

Result, The LC_{50} and LC_{90} values were 639,3086 ppm and 2822,273 ppm. Larvae responses to the exposure were heterogen insignificant with line regression $Y = -0,5764399 + 1,987532 X$

Conclusion, Ethanol extract of celery leaf has larvicidal effect against larvae of *Ae. aegypti*. There is correlation between the increase of its concentration and the increase of larvae mortality.

Keyword, Dengue Hemorrhagic Fever, *Aedes aegypti*, larvicide, celery (*Apium graveolens*).

INTISARI

Latar belakang, Penyakit Demam Berdarah Dengue (DBD) masih merupakan salah satu masalah kesehatan masyarakat yang utama di Indonesia. Vektor utama DBD di Indonesia adalah nyamuk *Aedes aegypti*. Penggunaan insektisida kimia (sintetik) dapat menimbulkan resistensi vektor, terbunuhnya target bukan sasaran, residu insektisida, dan pencemaran lingkungan. Seledri (*Apium graveolens*) memiliki banyak kandungan flavonoid, saponin, dan tanin. Oleh karena itu, daun seledri memiliki potensi sebagai larvisida alami terhadap larva nyamuk *Ae. aegypti*.

Tujuan, Mengetahui efek larvisida ekstrak etanol daun seledri (*Apium graveolens*) terhadap larva *Ae. aegypti*. Mengetahui hubungan antara konsentrasi ekstrak etanol daun seledri dengan kematian larva nyamuk *Ae. aegypti*.

Metode, Metode yang digunakan adalah quasi experimental dengan post test only control group design. Uji pendahuluan dilakukan dengan 6 kelompok perlakuan dan 2 kelompok kontrol, masing-masing kelompok terdiri dari 10 larva. Setelah 24 jam paparan, diamati kematian dari larva 10-90%. Pada pengujian akhir ditentukan 9 variasi konsentrasi berdasar hasil uji pendahuluan. Pengujian akhir dilakukan 3 kali uji. Kematian larva dihitung setelah 24 jam dan dianalisis dengan analisis Probit.

Hasil, Didapatkan nilai LC_{50} dan LC_{90} pada konsentrasi 639,3086 ppm dan 2822,273 ppm. Respon larva bersifat heterogen insignificant dengan garis regresi $Y = -0,5764399 + 1,987532 X$

Kesimpulan, Ekstrak etanol daun seledri memiliki efek larvisida terhadap larva nyamuk *Ae. aegypti*. Ada hubungan antara peningkatan konsentrasi ekstrak etanol daun seledri dengan peningkatan kematian larva nyamuk *Ae. aegypti*.

Kata kunci, Demam Berdarah Dengue, *Aedes aegypti*, larvisida, seledri (*Apium graveolens*).