

ABSTRAK

Penyakit Demam Berdarah Dengue yang disebabkan oleh vektor nyamuk *Aedes aegypti* masih banyak ditemukan di Indonesia. Sebagai pengendalian vektor penyakit tersebut masyarakat lebih sering menggunakan insektisida sintetik yang mengandung bahan kimia berbahaya. Penelitian terdahulu (Ameliana & Winarti, 2011) menggunakan rimpang kunyit sebagai lotion anti nyamuk, dan sebagai larvasida *Aedes aegypti* (Sulistyani, 2015), sehingga peneliti tertarik mengembangkannya pada bioinsektisida. Ekstrak rimpang kunyit (*Curcuma domestica* Val) mengandung zat aktif antara lain: minyak atsiri, flavonoid, saponin, dan alkaloid berpotensi sebagai bioinsektisida. Penelitian ini dilakukan untuk mengetahui efektivitas ekstrak rimpang kunyit (*Curcuma domestica* Val) sebagai anti nyamuk elektrik terhadap *Aedes aegypti*. Penelitian ini dilakukan di Laboratorium Entomologi Dinas Kesehatan Provinsi Jawa Timur pada bulan Maret 2019. Penelitian ini merupakan jenis penelitian eksperimental yang menggunakan larutan ekstrak rimpang kunyit dengan konsentrasi 20%, 40%, 60%, 80%, kontrol positif dan kontrol negatif. Penelitian menggunakan sampel uji sebanyak 25 ekor nyamuk dengan 4 kali replikasi tiap perlakuan. Bahan dipaparkan selama 1 jam kemudian diinkubasi 24 jam. Pada konsentrasi 20% kematian nyamuk sebesar 32%, pada konsentrasi 40% kematian nyamuk sebesar 44%, pada konsentrasi 60% kematian nyamuk sebesar 72% dan pada konsentrasi 80% kematian nyamuk sebesar 80%. Dari uji analisis data *Anova One Way* diperoleh hasil nilai ($p < 0,05$) dan dilanjutkan dengan Uji Beda/LSD (Least Significant Difference) diperoleh hasil nilai ($p < 0,05$) sehingga dapat diketahui terdapat pengaruh dan perbedaan signifikan dari paparan ekstrak rimpang kunyit terhadap kematian nyamuk. Dari uji keefektivan terhadap kematian nyamuk, konsentrasi paling efektif dalam mematikan nyamuk adalah konsentrasi 60% sampai 80%. Dari hasil tersebut dapat disimpulkan semakin tinggi konsentrasi maka semakin tinggi jumlah kematian nyamuk.

Kata kunci: Nyamuk *Aedes aegypti*; ekstrak rimpang kunyit (*Curcuma domestica* Val)

ABSTRAC

Dengue Hemorrhagic Fever caused by the Aedes aegypti mosquito vector is still found in Indonesia. For the control of disease vectors, people use synthetic insecticides which contain hazardous chemicals more often. The use of excessive synthetic insecticides can cause toxic effects on humans and their environment, so alternative insecticides, bioinsecticides are needed. Previous research (Ameliana & Winarti, 2011) uses turmeric rhizome as a mosquito repellent lotion, and as Aedes aegypti larvae (Sulistiyani, 2015), so researchers are interested in developing it in bioinsecticides. Turmeric extract (Curcuma domestica Val) containing active substances, among others: essential oils, flavonoids, saponins, and alkaloids have the potential as bioinsecticides. This research was conducted to determine the effectiveness of turmeric extract (Curcuma domestica Val) as an electric anti-mosquito against Aedes aegypti. This research was conducted at the Entomology Laboratory of the East Java Provincial Health Office in March 2019. This research is an experimental research that uses turmeric extract rhizome solution with a concentration of 20%, 40%, 60%, 80%, positive control and negative control. The study used a sample of 25 mosquitoes with 4 replications per treatment, the ingredients were exposed for 1 hour then incubated 24 hours. at a concentration of 20% mosquito deaths were 32%, at a concentration of 40% mosquito deaths were 44%, at a concentration of 60% mosquito deaths were 72%, at a concentration of 80% mosquito deaths were 80%. From the Anova One Way data analysis test, the results of the value ($p < 0.05$) and continued with the Differential Test / LSD (Least Significant Difference) obtained the value ($p < 0.05$) so that it can be seen that there are significant effects and differences from the exposure of turmeric extract to the death of mosquitoes. From the effectiveness test for mosquito deaths, the most effective concentration in killing mosquitoes is a concentration of 60% to 80%. From these results it can be concluded that the higher the concentration, the higher the number of mosquito deaths.

Keywords: *Aedes aegypti mosquito; turmeric extract (Curcuma domestica Val)*