

ABSTRAK

Shasitharan. Roshini. 2014. **Uji Potensi Ekstrak Daun kari (*Murraya koenigii*) Sebagai Insektisida Terhadap Lalat *Musca domestica* Dengan Menggunakan Metode Semprot** Tugas Akhir, Fakultas Kedokteran Universitas Brawijaya. Dosen pembimbing: (1) Dr.dr.Sri Poeranto, Y.S, M.kes, Sp.Park (2) dr.Elly Mayangsari, M.Biomed.

Insektisida kimiawi memiliki efektifitas tinggi dalam membunuh lalat tetapi juga memiliki efek samping yang merugikan terhadap manusia dan lingkungan sedangkan insektisida alami bersifat mudah terurai sehingga penggunaannya relatif aman. *Murraya koenigii* mengandung *carbazole alkaloids*, *3-carene*, dan β -caryophyllene yang mempunyai efek insektisida. Lalat *Musca domestica* merupakan salah satu vektor mekanis untuk beberapa penyakit seperti *Diare*, *Disentri*, *Polio*, *Hepatitis A* dan *Cholera*. Penelitian ini bertujuan untuk menguji potensi ekstrak daun kari sebagai insektisida terhadap lalat *Musca domestica*. Penelitian ini merupakan 'penelitian *true experimental-post test only control group design*' dengan sampel yang digunakan adalah lalat *Musca domestica*. Pengulangan dilakukan sebanyak empat kali dengan jumlah perlakuan sebanyak enam jenis yaitu kontrol negatif (aquades), konsentrasi larutan ekstrak daun kari sebesar 2.5%, 5%, 7.5%, 10% dan kontrol positif (malathion 0,28%). Setiap perlakuan diamati pada delapan interval waktu yaitu pada menit ke 10, menit ke 20, menit ke 30, menit ke 40, menit ke 50, menit ke 60, jam ke 6 dan jam ke 24. Hasil penelitian menunjukkan mulai konsentrasi 5% jumlah kematian lalat pada jam ke 24, adalah 100%. Terdapat nilai perbedaan yang signifikan antara konsentrasi mulai dari 5%. Hasil uji korelasi *Pearson* konsentrasi terhadap Abbot menunjukkan nilai signifikansi (*P-value*) = 0.000 ($p < 0.05$) dan koefisien korelasi (*r-value*) = 0.753 yang berarti korelasinya berbanding lurus, yang artinya semakin tinggi dosis ekstrak, maka semakin tinggi jumlah kematian serta menunjukkan korelasi yang kuat ($r = 0.600-0.799$). Semakin lama waktu pengamatan, semakin besar potensi insektisida serta menunjukkan korelasi yang sedang ($r = 0.579$, sedang = $0.5 - 0.599$). Potensi insektisida lebih dipengaruhi oleh konsentrasi dibanding waktu. Kesimpulan dari penelitian ini adalah ekstrak daun kari (*Murraya koenigii*) mempunyai potensi sebagai insektisida terhadap lalat *Musca domestica*.

Kata kunci : ekstrak daun kari, insektisida, *Musca domestica*, *Murraya koenigii*.

ABSTRACT

Shasitharan. Roshini. 2014. **The Potential Effect Of *Murraya koenigii* Extract On Housefly *Musca domestica* as a Insecticide Using Spraying Method.** Final Assignment, Faculty Of Medicine, Brawijaya University. Supervisors: (1) Dr. dr. Sri Poeranto, Y.S, M.kes, Sp.Park, (2) dr.Elly Mayangsari, M.Biomed.

Manmade chemical insecticides have proved to be highly effective in eradicating this pest but its negative effects upon human health and environmental safety were major drawbacks to its continued use. Hence, the search for alternative, natural substances such as *Murraya koenigii*, that were both environmentally safe as well as being effective insecticides. The extract of *Murraya koenigii* has known to contain high concentrations of *carbazole alkaloids*, *3-carene* and *β -caryophyllene*. These substances do have insecticidal properties. *Musca domestica* was selected as the specimen for this study because it served as an important mechanical vector for many diseases endemic in the developing world such as Diarrhea, Dysentery, Polio, Hepatitis A, and as well as Cholera. This study aimed to identify the potency of extract *Murraya koenigii* against *Musca domestica* using a contact poison method. A true experimental study was conducted, using specimens of *Musca domestica* at four concentrations of *Murraya koenigii* extract; 2.5%, 5%, 7.5% and 10% with one negative control using aquades solution, and also one positive control using 0.28% *Malathion*. The experiment was repeated four times and each repetition was observed at eight time intervals (10 minutes, 20 minutes, 30 minutes, 40 minutes, 50 minutes, 60 minutes, 6th and 24th hour). The results showed that at concentration of 5% and above, the amount of *Musca domestica* died was 100% at 24th hour. There was a significant and relevant difference between the results of the study at each concentration of the extract starting from 5% and above. A *Pearson correlation* analysis of extract concentration against the *Abbot* value showed a significant *P-value* = 0.00 ($p < 0.05$) and a correlation coefficient (*r-value*) of 0.753 which shows as the concentration of extract gets higher, the amount of death of the specimen increases indicating a strong correlation (r 0.600-0.799). The *r-value* indicates there was a strong and linear correlation between increasing concentration of extract and increasing *Abbot* value (increasing potency of insecticide). The potency of insecticide gets bigger when the time of exposure increases and certainly showed a moderate correlation ($r = 0.579$, sedang = 0.5 -0.599). The insecticidal potency is more affected by the concentration of extract compared to time. It can be concluded from this study that *Murraya koenigii* is a potent and insecticide towards *Musca domestica*.

Keywords :insecticide, *Musca domestica*, *Murraya koenigii* extract.