

ABSTRAK

Nadarajan.Gaayathri.2014. **Uji Potensi Ekstrak Daun *Rosemary (Rosmarinus officinalis)* Sebagai Insektisida Terhadap Lalat *Musca domestica* Menggunakan Metode Semprotan Tugas Akhir, Fakultas Kedokteran Universitas Brawijaya. Dosen pembimbing: (1) dr. Aswin D. Baskoro, MS.,Sp.PaK, (2) drg.R.Setyohadi, MS.**

Insektisida kimiawi memiliki efektifitas tinggi dalam membunuh lalat rumah tetapi juga memiliki efek samping yang merugikan terhadap manusia dan lingkungan sedang insektisida alami bersifat mudah terurai sehingga penggunaannya relatif aman. *Rosmarinus officinalis* mengandung *linalool*, *borneol*, dan *camphor* yang diduga mempunyai efek insektisida. Lalat *Musca domestica* merupakan salah satu vektor mekanis untuk beberapa penyakit seperti *Diare*, *Disentri* dan *Cholera*. Penelitian ini bertujuan untuk menguji potensi ekstrak daun rosemary 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 lima jenis yaitu kontrol negatif (aquades), konsentrasi larutan ekstrak daun rosemary sebesar 5%, 7.5%, 10% dan control positif (malathion 0,28%). Setiap perlakuan diamati pada tujuh interval waktu yaitu pada jam 1, jam 2, jam 3, jam 4, jam 5, jam 6, dan jam 24. Hasil penelitian menunjukkan bahwa pada konsentrasi 10%, dalam waktu 40 menit, 50% lalat mati. Terdapat perbedaan yang bermakna pada konsentrasi 5%, 7.5% dan 10%. Hasil uji korelasi *Pearson* konsentrasi terhadap Abbot menunjukkan nilai signifikansi (*P-value*) = 0.000 ($p < 0.05$) dan koefisien korelasi (*r-value*) = 0.788 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 lemah ($r = 0.295$, lemah = < 0.500). Potensi insektisida lebih dipengaruhi oleh konsentrasi dibanding waktu.

Kesimpulan dari penelitian ini adalah ekstrak daun *rosemary (Rosmarinus officinalis)* mempunyai potensi sebagai insektisida yang bagus terhadap lalat *Musca domestica*.

Kata kunci : ekstrak daun *rosemary*, insektisida, *Musca domestica*, *Rosmarinus officinalis*.

ABSTRACT

Nadarajan.Gaayathri.2014. **The Potential Effect Of *Rosmarinus officinalis* Extract On House Fly (*Musca domestica*) as a Insecticide Using Spraying Method.** Final Assignment, Faculty Of Medicine, Brawijaya University. Supervisors: (1) dr. Aswin D. Baskoro, MS.,Sp.ParK, (2) drg.R.Setyohadi, MS.

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 *Rosmarinus officinalis*, that were both environmentally safe as well as being effective insecticides. The extract of *Rosmarinus officinalis* has knowned to contain high concentrations of *linalool*, *borneol*, and *camphor*. These substances were thought to 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 dan Cholera. This study aimed to identify the potency of *Rosmarinus officinalis* extract against *Musca domestica* using a contact poison method. A true experimental study was conducted, using specimens of *Musca domestica* at three concentrations of *Rosmarinus officinalis* extract; 5%, 7.5%, 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 seven time intervals (1st, 2nd, 3rd, 4th, 5th, 6th and 24th hour). The results showed that at a concentration of 10%, 50% of *Musca domestica* specimens died within 4.5 hours. There was a significant and relevant difference between the results of the study at each concentration of the extract. A *Pearson correlation* analysis of extract concentration against the *Abbot* value showed a significant *P-value* = 0.000 ($p < 0.05$) and a correlation coefficient (*r-value*) of 0.788. The *r-value* indicates there was a strong (r 0.600-0.799) and linear correlation between increasing concentration of extract and increasing *Abbot* value (increasing potency of insecticide). The longer the observation time, the bigger the insecticide potential and also shows a weak correlation ($r = 0.295$, lemah = < 0.500). Thus insecticidal potential is more affected by concentration compared to time.

It can be concluded from this study that *Rosmarinus officinalis* is a potent and effective insecticide towards *Musca domestica*.

Keywords :insecticide, *Musca domestica*, *Rosmarinus officinalis* extract.