

ABSTRAK

POTENSI EKSTRAK ETANOL CENGKEH (*Syzygium aromaticum*) SEBAGAI HERBAL *REPELLENT* ALAMI NYAMUK

Rifatah Ali Bahnan

22/497822/KH/11285

Nyamuk merupakan salah satu makhluk hidup yang dampak gigitannya dapat mengganggu bagi manusia maupun hewan. Nyamuk dapat berperan sebagai vektor bagi organisme penyebab penyakit, seperti virus, bakteri, maupun parasit. Kerugian akibat gigitan nyamuk selama ini banyak diantisipasi dengan penggunaan produk antinyamuk berbahan dasar kimia, tetapi senyawa kimia berpotensi menimbulkan efek negatif bagi tubuh dan lingkungan apabila digunakan dalam jangka panjang. Salah satu alternatif yang sedang dikembangkan adalah penggunaan *repellent* berbahan dasar herbal berupa tanaman cengkeh (*Syzygium aromaticum*). Penelitian ini bertujuan untuk mengetahui potensi ekstrak etanol cengkeh terhadap berbagai spesies nyamuk dengan konsentrasi 0,5%; 1%; 3%, dan 5%. *Repellent* diuji pada nyamuk uji menggunakan metode *bottle bioassay* dan dilakukan pengamatan setiap jam selama tujuh jam. Metode *bottle bioassay* dilakukan dengan meneteskan dan meratakan ekstrak pada botol uji kemudian dikeringkan pada suhu ruang. Pengujian dilakukan dengan menggunakan 540 ekor nyamuk dewasa. Malathion 1 mL digunakan sebagai kontrol positif, sedangkan 2 mL aquades sebagai kontrol negatif. Efek yang ditimbulkan ekstrak yaitu terjadi kematian pada nyamuk. Hasil pengujian menunjukkan adanya aktivitas *repellent* ekstrak etanol cengkeh konsentrasi 3% mampu mencapai mortalitas 100% dalam tiga jam pertama, sedangkan konsentrasi 5% menunjukkan mortalitas 100% pada jam pertama pengamatan.

Kata kunci: *Bottle bioassay*, cengkeh, nyamuk, *repellent*, *Syzygium aromaticum*

ABSTRACT

POTENTIAL OF ETHANOLIC CLOVE (*Syzygium aromaticum*) EXTRACT AS A NATURAL HERBAL MOSQUITO REPELLENT

Rifatah Ali Bahnan

22/497822/KH/11285

Mosquitoes are living organisms whose bites can cause disturbances to both humans and animals. Mosquitoes can act as vectors for disease-causing organisms, such as viruses, bacteria, and parasites. The adverse effects caused by mosquito bites have commonly been prevented through the use of chemical-based mosquito control products; however, chemical compounds may produce negative effects on the body and the environment when used over a long period. One alternative currently being developed is the use of herbal-based *repellents* derived from clove (*Syzygium aromaticum*). This study aimed to determine the potential of ethanolic clove extract against various mosquito species at concentrations of 0.5%, 1%, 3%, and 5%. The *repellent* was tested on mosquitoes using the bottle bioassay method, with observations conducted every hour for seven hours. The bottle bioassay method was performed by applying and evenly spreading the extract onto the inner surface of test bottles, which were then air-dried at room temperature. The experiment was conducted using 540 adult mosquitoes. Malathion (1 mL) was used as the positive control, while 2 mL of distilled water was used as the negative control. The effect produced by the extract was mosquito mortality. The results showed that the 3% concentration achieved 100% mortality within the first three hours of observation, while the 5% concentration reached 100% mortality within the first hour of observation.

Keywords: Bottle bioassay, clove, mosquito, repellent, *Syzygium aromaticum*