ABSTRAK

Penelitian ini mengevaluasi efektifitas ekstrak daun kecapi sebagai biopestisida pengendali hama lalat buah *(Drosophila melanogaster)* yang berkelanjutan dan ramah lingkungan. Biopestisida berbasis ekstrak daun kecapi *(Sandoricum koetjape* (Burm.F.) Merr*)* dibuat dengan metode maserasi cair bertingkat menggunakan pelarut n-heksan (non polar), etil astat (semi polar), dan metanol (polar). Karakteristik ekstrak daun kecapi meliputi pH, GC-MS, fitokimia, dan FTIR. Dilakukan uji pendahuluan dengan menggunakan ekstrak daun kecapi pada konsentrasi 5% dari tiga jenis pelarut. Pengujian efektivitas ekstrak sebagai biopestisida dilakukan pada variasi konsentrasi larutan 5%, 7,5%, 10%, 12,5% (b/b) dari pelarut terbaik hasil uji pendahuluan yaitu pelarut metanol. Lama pengamatan pada rentang waktu 12, 24, 36, 48 jam untuk melihat tingkat daya pikatnya. Mortalitas lalat buah diamati pada variasi waktu 1 sampai 7 hari. Hasil pengamatan menunjukan bahwa pada konsentrasi 12,5% ekstrak daun kecapi memiliki tingkat daya pikat tertinggi pada pengamatan di 48 jam. Tingkat mortalitas tertinggi yaitu 100% diperoleh pada konsentrasi 12.5% dihari ketujuh pengamatan. Dari hasil penelitian ini, dapat di simpulkan bahwa ekstrak daun kecapi layak dan berpotensi menjadi bahan aktif biopestisida pengendali serangan hama lalat buah yang berkelanjutan dan ramah lingkungan. Kedepannya, ekstrak daun kecapi ini bisa menggantikan bahan aktif pestisida kimia yang tidak ramah lingkungan dan berdampak negatif bagi kesehatan.

Kata Kunci: biopestisida, daun kecapi, hama, mortalitas, lalat buah.

ABSTRACT

This study evaluated the effectiveness of lyre leaf extract as a biopesticide for fruit fly pest control *(Drosophila melanogaster)* that is sustainable and environmentally friendly. Biopesticides based on lyre leaf extract (*Sandoricum koetjape (*Burm.F.) Merr) is made by a stratified liquid maceration method using n-hexane (non polar), ethyl astat (semi-polar), and methanol (polar) solvents. Characteristics of lyre leaf extract include pH, GC-MS, phytochemicals, and FTIR. Preliminary tests were carried out using lyre leaf extract at a concentration of 5% from three types of solvents. Testing the effectiveness of extracts as biopesticides was carried out at variations in solution concentrations of 5%, 7.5%, 10%, 12.5% (w/w) from the best solvents of preliminary test results, namely methanol solvents. The length of observation on the time span of 12, 24, 36, 48 hours to see the level of allure. Fruit fly mortality was observed at a time variation of 1 to 7 days. The results showed that at a concentration of 12.5% lyre leaf extract had the highest level of allure on observation at 48 hours. The highest mortality rate of 100% was obtained at a concentration of 12.5% on the seventh day of observation. From the results of this study, it can be concluded that lyre leaf extract is feasible and has the potential to be an active ingredient in biopesticides to control fruit fly pest attacks that are sustainable and environmentally friendly. In the future, this lyre leaf extract can replace the active ingredients of chemical pesticides that are not environmentally friendly and have a negative impact on health.

Keywords: biopesticides, lyre leaves, pests, mortality, fruit flies.