

ABSTRACT

FORMULATION AND EVALUATION OF LOTION *REPELLENT* COMBINATION OF CELERY ESSENTIAL OIL (*Apium gaveolens* L) AND *CITRONELLA* (*Cymbopogon nardus* L) AGAINST *Aedes sp.*

Nuri Anjayani

NIM. 402019718060

Dengue Hemorrhagic Fever (DHF) is an infectious disease caused by the dengue virus and is transmitted through the bite of the *Aedes sp* mosquito. Control efforts in the community are chemical insecticides and cause resistance to mosquitoes and poisoning in humans. Control efforts can be in the form of natural insecticides of plant origin, one of the essential oils of citronella and celery. This study aims to determine the effectiveness of the combination of citronella and celery essential oils with a combination variation of 1%, 0.5% and 2%, and produce repellent lotion preparations that meet the standards. The methodology in this study is experimental research. Tests performed on lotion preparations include organoleptic tests, homogeneity, pH, viscosity, dispersality, irritation and repellent tests. The data obtained were then analyzed using SPSS 16 with Shapiro-wilk and continued with wilcoxon test. The results showed that the entire lotion preparation of the combination of citronella essential oil and celery was greenish-white, with a characteristic aroma of citronella and celery, semi-solid, homogeneous, with the pH of 7.2 - 7.7 (4.5-8), a dispersion test of 5.6 cm - 6.6 cm (5-7 cm) and a viscosity test produced 1404.7 cP - 5103.6 cP (2,000 cP-5,000 cP) that the lotion preparation met the criteria of the standard range of values. The effective formula of the essential oil combination is formula 3 with a combination of 1:1 having the highest repellent protection power of 85% and the formula that meets the evaluation standard is F1-F5.

Keywords: *Aedes sp, Celery Essential Oil, Citronella Essential Oil, Lotion, Repellent*

ABSTRAK

FORMULASI DAN EVALUASI LOTION REPELLENT KOMBINASI ESSENTIAL OIL SELEDI (*Apium givedolens* L) DAN CITRONELLA (*Cymbopogon nardus* L) TERHADAP *Aedes sp.*

Nuri Anjayani

NIM. 402019718060

Demam Berdarah Dengue (DBD) adalah penyakit menular yang disebabkan oleh virus dengue dan ditularkan melalui gigitan nyamuk *Aedes sp.* Upaya pengendalian di masyarakat adalah insektisida kimiawi dan menimbulkan resistensi terhadap nyamuk dan keracunan pada manusia. Upaya pengendalian dapat berupa insektisida alami yang berasal dari tumbuhan, salah satunya minyak atsiri serai wangi dan seledri. Penelitian ini bertujuan untuk mengetahui efektivitas kombinasi minyak atsiri serai wangi dan seledri dengan variasi kombinasi 1%, 0,5% dan 2%, serta menghasilkan sediaan lotion penolak yang memenuhi standar. Metodologi dalam penelitian ini adalah penelitian eksperimen. Pengujian yang dilakukan terhadap sediaan losion meliputi uji organoleptik, homogenitas, pH, viskositas, dispersalitas, uji iritasi dan uji repelan. Data yang diperoleh kemudian dianalisis menggunakan SPSS 16 dengan Shapiro-wilk dan dilanjutkan dengan uji wilcoxon. Hasil penelitian menunjukkan bahwa seluruh sediaan lotion kombinasi minyak atsiri serai wangi dan seledri berwarna putih kehijauan, dengan aroma khas serai dan seledri, setengah padat, homogen, dengan pH 7,2 - 7,7 (4,5-8), uji dispersi 5,6 cm - 6,6 cm (5-7 cm) dan uji viskositas menghasilkan 1404,7 cP - 5103,6 cP (2.000 cP-5.000 cP) bahwa sediaan losion memenuhi kriteria rentang nilai baku. Formula kombinasi minyak atsiri yang efektif adalah formula 3 dengan kombinasi 1:1 yang memiliki daya proteksi repelan tertinggi sebesar 85% dan formula yang memenuhi standar penilaian adalah F1-F5.

Kata kunci: Aedes sp, Minyak Atsiri Seledri, Minyak Atsiri Sereh, Lotion, Repellent