ABSTRAK

FORMULASI DAN UJI EFEKTIVITAS *SPRAY* ANTI NYAMUK BERBAHAN DASAR EKSTRAK DAUN KEMANGI *(OCIMUM BASILICUM)*DAN KULIT JERUK (*CITRUS AURANTIFOLIA*)

Deby Ellyza, 2026, 62 Halaman, 8 Tabel, 10 Gambar, 3 Lampiran

Spray anti nyamuk merupakan sediaan repellent untuk mencegah gigitan nyamuk *Aedes aegypti* sebagai vektor demam berdarah dengue. Daun kemangi dan kulit jeruk nipis digunakan sebagai bahan alami yang lebih aman dibandingkan insektisida sintetis, karena mengandung flavonoid, minyak atsiri, limonene, dan senyawa fenolik yang berpotensi sebagai repellent. Penelitian ini bertujuan mengetahui pengaruh variasi komposisi ekstrak dan konsentrasi gliserol terhadap karakteristik fisik serta efektivitas *spray* anti nyamuk. Metode yang digunakan adalah eksperimen laboratorium dengan ekstraksi maserasi etanol 96% dan formulasi sediaan *spray*, dengan parameter uji pH, viskositas, kadar flavonoid, dan efektivitas repellent. Hasil menunjukkan pH 5,7–5,9, viskositas 13,32–24,53 cP, kadar flavonoid tertinggi 10,54 mg QE/g pada volume 4:4, serta efektivitas terbaik 100% pada formulasi C2. Kesimpulannya, kombinasi ekstrak berpengaruh terhadap karakteristik dan efektivitas, dengan formulasi optimal pada volume 4:4.

Kata kunci: *Spray* anti nyamuk, daun kemangi, kulit jeruk nipis, flavonoid, repellent

ABSTRACT

FORMULATION AND EFFECTIVENESS TEST OF MOSQUITO REPELLENT SPRAY BASED ON BASIL LEAF EXTRACT (*Ocimum basilicum* L.) AND LIME PEEL (*Citrus aurantifolia*)

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Mosquito repellent spray is a topical formulation used to prevent bites from *Aedes aegypti*, the vector of dengue fever. Basil leaves and lime peel are used as natural ingredients that are considered safer than synthetic insecticides because they contain flavonoids, essential oils, limonene, and phenolic compounds with potential as mosquito repellents. This study aims to determine the effect of variations in extract composition and glycerol concentration on the physical characteristics and effectiveness of mosquito repellent spray. The method used was a laboratory experiment involving maceration extraction with 96% ethanol followed by spray formulation, with testing parameters including pH, viscosity, flavonoid content, and repellent effectiveness. The results showed a pH of 5.7–5.9, viscosity of 13.32– 24.53 cP, the highest flavonoid content of 10.54 mg QE/g at a 4:4 ratio, and the best effectiveness of 100% in formulation C2. In conclusion, the combination of extracts influences the characteristics and effectiveness of the spray, with the optimal formulation obtained at a 4:4 ratio.

Keywords: Mosquito repellent spray, basil leaves, lime peel, flavonoids, repellent