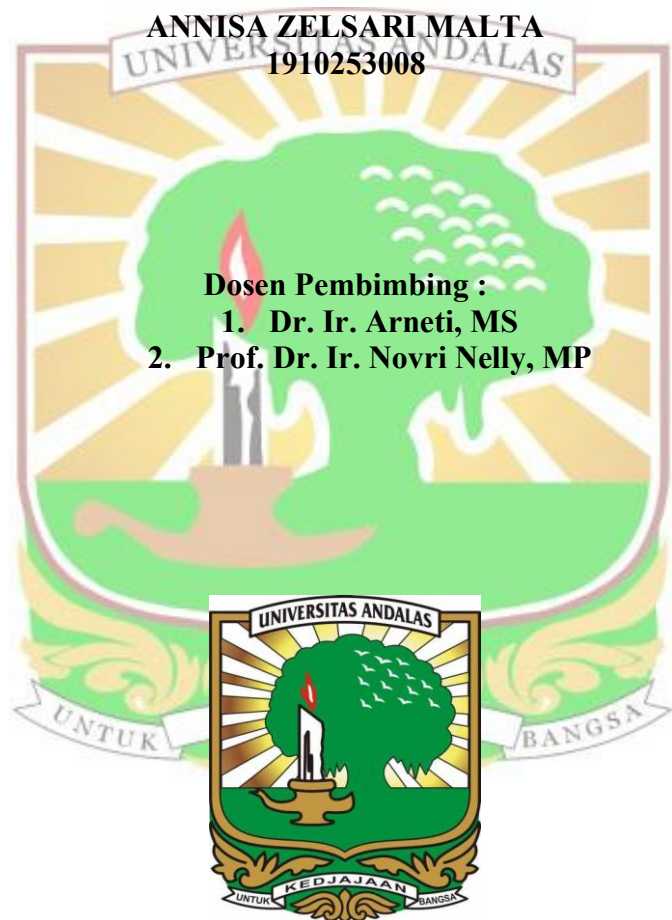


**AKTIVITAS NANOEMULSI MINYAK SERAI WANGI
(*Cymbopogon nardus* Linnaeus) TERHADAP TELUR
Crocitolomia pavonana Fabricius (Lepidoptera : Crambidae)**

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ABSTRAK

Crocidolomia pavonana F. merupakan hama utama pada tanaman kubis-kubisan yang menyebabkan penurunan hasil dan kualitas produksi sehingga diperlukan alternatif pengendalian yang lebih ramah lingkungan, salah satunya insektisida nabati. Penelitian bertujuan untuk mengetahui aktivitas nanoemulsi serai wangi (*Cymbopogon nardus* L.) dalam mengendalikan telur *Crocidolomia pavonana*. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 6 perlakuan dan 4 ulangan. Penelitian terdiri dari dua tahapan yaitu uji pendahuluan terhadap larva instar dua *C. pavonana* untuk menentukan LC₉₅. Uji lanjut terdiri dari 6 perlakuan (kontrol umur telur satu hari, dua hari, dan tiga hari, serta perlakuan umur telur satu hari, dua hari, dan tiga hari) dengan konsentrasi 1,38%. Aplikasi nanoemulsi dilakukan dengan cara penyemprotan pada kelompok telur menggunakan 2 ml larutan. Parameter yang diamati adalah persentase telur menetas, persentase telur tidak menetas, persentase mortalitas larva instar 1, persentase pupa terbentuk, serta persentase imago terbentuk. Hasil penelitian menunjukkan bahwa nanoemulsi serai wangi bersifat ovisidal terhadap telur *C. pavonana*. Semakin awal umur telur seperti umur satu hari setelah telur diletakkan yang diperlakukan semakin sedikit jumlah telur yang menetas dan semakin tinggi telur tidak menetas. Persentase penetasan telur dan daya hambat penetasan berturut-turut adalah ; umur satu hari 6,35%, daya hambat 96%; umur dua hari 25,97%, daya hambat 81,25%; umur tiga hari 67,79%, daya hambat 55,50%.

Kata kunci: Aktivitas, *Crocidolomia pavonana*, minyak serai wangi, nanoemulsi



**ACTIVITY OF CITRONELLA OIL (*Cymbopogon nardus* Linnaeus)
NANOEMULSION AGAINST THE EGGS OF *Crocidolomia pavonana*
Fabricius (Lepidoptera: Crambidae)**

ABSTRACT

Crocidolomia pavonana F. is a major pest of cruciferous crops, causing significant reductions in yield and product quality. Therefore, environmentally friendly control alternatives are needed, one of which is the use of botanical insecticides. This study aimed to evaluate the activity of citronella (*Cymbopogon nardus* L.) nanoemulsion in controlling the eggs of *Crocidolomia pavonana*. The experiment was arranged in a Completely Randomized Design (CRD) consisting of six treatments and four replications. The study was conducted in two stages. The preliminary test was performed on second-instar larvae of *C. pavonana* to determine the LC₉₅ value. The main experiment consisted of six treatments: untreated control eggs aged one, two, and three days, and treated eggs aged one, two, and three days, with a nanoemulsion concentration of 1.38%. The nanoemulsion was applied by spraying 2 mL of the solution onto egg masses. The observed parameters included egg hatchability, percentage of unhatched eggs, mortality of first-instar larvae, percentage of pupae formed, and percentage of adults emerged. The results showed that citronella nanoemulsion exhibited ovicidal activity against *C. pavonana* eggs. The younger the egg age at the time of treatment, particularly one-day-old eggs, the lower the hatching rate and the higher the percentage of unhatched eggs. The percentages of egg hatchability and inhibition of egg hatching were, respectively: 6.35% hatchability and 96.00% inhibition for one-day-old eggs; 25.97% hatchability and 81.25% inhibition for two-day-old eggs; and 67.79% hatchability and 55.50% inhibition for three-day-old eggs.

Keywords: Activity, *Crocidolomia pavonana*, citronella oil, nanoemulsion