UJI BEBERAPA KONSENTRASI INSEKTISIDA NABATI BABADOTAN (*Ageratum conyzoides* L.) TERHADAP KEMATIAN HAMA ULAT KANTONG (*Metisa plana* Walker)

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ABSTRAK

Serangan hama ulat kantong pada tanaman kelapa sawit menyebabkan kerusakan pada daun dan penurunan produksi. Pengendalian ulat kantong dengan insektisida kimia secara terus-menerus dapat menimbulkan dampak negatif terhadap lingkungan. Oleh karena itu, dilakukan penelitian dengan memanfaatkan tumbuhan babadotan sebagai insektisida nabati. Penelitian ini bertujuan untuk megetahui pengaruh beberapa konsetrasi dan konsentrasi terbaik insektisida nabati dari tanaman babadotan terhadap kematian hama ulat kantong. Penelitian dilakukan di laboratorium dengan lima perlakuan konsentrasi ektrak babadotan (0%, 50%, 60%, 70%, dan 80%) menggunakan metode rancangan acak lengkap dengan 4 ulangan. Paramater yang diamati meliputi mortalitas, mortalitas awal, kehilangan luas dan berat daun pakan, perubahan morfologi serta analisis LC_{50}. Hasil penelitian menunjukkan bahwa semua konsentrasi ekstrak babadotan (50-80%) memberikan pengaruh nyata terhadap kematian ulat kantong dengan tingkat mortalitas 100%, sedangkan kontrol hanya 10%. Konsentrasi 50% sudah cukup efektif mengendalikan hama ulat kantong dan menghasilkan nilai LC_{50} sebesar 13,14 µg/ml, yang termasuk kategori sangat toksik. Dengan demikian, ekstrak babadotan berpotensi sebagai insektisida nabati ramah lingkungan untuk pengendalian hama ulat kantong pada tanaman kelapa sawit.

Kata kunci: Ulat kantong, Kelapa sawit, insektisida nabati, babadotan, LC_{50}

TEST OF SEVERAL CONCENTRATIONS OF THE PLANT-BASED INSECTICIDE BABADOTAN (*Ageratum conyzoides* L.) ON THE MORTALITY OF BAGWORM (*Metisa plana* Walker)

ABSTRACT

Caterpillar infestation in oil palm plants causes leaf damage and reduced production. Continuous control of bagworms with chemical insecticides can have a negative impact on the environment. Therefore, research was conducted by utilizing babadotan plants as a vegetable insecticide. This study aims to see the effect of several concentrations and the best concentration of vegetable insecticides from babadotan plants on the death of bag caterpillars. The research was conducted in the laboratory with five treatments of babadotan extract concentration (0%, 50%, 60%, 70%, and 80%) using the complete randomized design method with four replications. Parameters observed included mortality, early mortality, loss of leaf area and weight, morphological changes and LC_{50} analysis. The results showed that all concentrations of babadotan extract (50-80%) had a significant effect on the mortality of bagworms with a mortality rate of 100%, while the control only reached 10%. The 50% concentration was effective enough to control the caterpillar pests and produced an LC_{50} value of 13.14 µg/ml, which is in the highly toxic category. Thus, babadotan extract has the potential as an alternative environmentally friendly vegetable insecticide for controlling bagworm pests in oil palm plants.

Keywords: Bagworm, oil palm, plant-based insecticide, babadotan, LC_{50}