## ABSTRAK

**Gaida Salwa Khoirunnisa, 2023. Uji Efektifitas Biopestisida Daun Babadotan (*Ageratum conyzoides*) Untuk Mengendalikan Ulat Kubis (*Phlutella xylostella*) Dalam Budidaya Tanaman Kale (*Brassica oleraceae Var.* Acephala). Di bawah bimbingan Ahmad Taofik dan Efrin Firmansyah**

Kale merupakan tanaman hortikultura bernilai ekonomi tinggi. Salah satu hama utama yang menyerang tanaman kale adalah ulat kubis (*Plutella xylostella*). Pengendalian hama ini dilakukan melalui penggunaan pestisida nabati. Babadotan merupakan tanaman yang dapat digunakan sebagai bahan baku pestisida. Penelitian ini bertujuan untuk mengetahui pengaruh dan pemberian konsentrasi efektif ekstrak daun babadotan pada tanaman kale guna mengurangi resiko kehilangan hasil tanaman kale akibat serangan hama ulat kubis (*P. xylostella)* Penelitian ini dilakukan di Kampung Patrol Desa Sukamukti, Kecamatan Katapang, Kabupaten Bandung, Provinsi Jawa Barat, dan di Laboratorium Agroteknologi, Fakultas Sains dan Teknologi, UIN Sunan Gunung Djati Bandung, terhitung sejak Juli-September 2023. Metode rancangan yang digunakan yaitu Rancangan Acak Kelompok dan Rancangan Acak Lengkap dengan pengujian *in vitro* dan *in vivo*. Pada metode *in vitro* menggunakan 5 taraf perlakuan dan 4 kali ulangan. Taraf perlakuan yang digunakan yaitu P0 = Aquades, P1 = Ekstrak daun babadotan $2x10^4$ ppm, P2 = Ekstrak daun babadotan $3x10^4$ ppm, P3 = Ekstrak daun babadotan $4x10^4$ ppm, P4 = Ekstrak daun babadotan $5x10^4$ ppm. Pengujian dengan *in vivo* menggunakan 6 taraf perlakuan dan 4 kali ulangan. Taraf perlakuan yang digunakan yaitu, P0 = Kontrol (tanpa ekstrak daun dan *P. xylostella)*, P1 = Aquades, P2 = Ekstrak daun babadotan $2x10^4$ ppm, P3 = Ekstrak daun babadotan $3x10^4$ ppm, P4 = Ekstrak daun babadotan $4x10^4$ ppm, P5 = Ekstrak daun babadotan $5x10^4$ ppm. Hasil penelitian menunjukan bahwa pestisida nabati ekstrak babadotan mampu mengendalikan hama ulat kubis dan konsentrasi ekstrak babadotan 4% mampu memberikan hasil terbaik pada persentase mortalitas (*in vitro*), bobot pakan dimakan, dan persentase mortalitas (*in vivo*).


Kata kunci: Daun babadotan, Tanaman Kale, Ulat kubis

## ABSTRACT

**Gaida Salwa Khoirunnisa, 2023. Effectiveness Test of Babadotan Leaf Biopesticide (*Ageratum conyzoides*) to Control Cabbage *Caterpillar (Phlutella xylostella)* in Kale Plant Cultivation *(Brassica oleraceae Var. Acephala*). Supervised by Ahmad Taofik and Efrin Firmansyah.**

Kale is a horticultural crop wich have high economic value. One of the major pests of kale plants is the kale caterpillar *(Plutella xylostella*). This pest control is carried out through the use of plant pesticides. Babadotan is a plant that can be used as a raw material for pesticides. This research aims to determine the use and effective concentration of babadotan leaf extract in kale plants to reduce the risk of kale plant loss due to kale caterpillar *(P. xylostella*) pest attack. This research conducted in Patrol Village, Sukamukti Village, Katapang District, Bandung Regency, West Java Province and Agrotechnology Laboratory, Faculty of Science and Technology, UIN Sunan Gunung Djati Bandung, starting from July-September 2023. Design Methods Randomized block designs and fully randomized designs with *in vitro* and *in vivo* testing were used. The *in vitro* method uses 5 treatment levels and 4 repetitions. The treatment levels used were P0 = Aquades, P1 = 2x104 ppm babadotan leaf extract, P2 = 3x104 ppm babadotan leaf extract, P3 = 4x104 ppm babadotan leaf extract, P4 = 5x104 ppm babadotan leaf extract babadotan leaves. *In vivo* testing used 6 treatment levels and 4 replicates. The treatment levels used were P0 = Control (without leaf extract and P. Babadotan leaves 5x104 ppm. The results showed that vegetable pesticides babadotan extract was able to control cabbage caterpillar pests and the concentration of babadotan extract 4% was able to provide the best results on mortality percentage (*in vitro*), feed weight eaten, and mortality percentage (*in vivo*).



Keywords: Babadotan leaves, cabbage caterpillar, kale plants