

ABSTRAK

Nurhanipah. 2023. Pengaruh Pestisida Nabati Ekstrak Umbi Gadung (*Discorea hispida* Dennst) Terhadap Pertumbuhan Dan Hasil Tanaman Mentimun (*Cucumis sativus*) Yang Diinvestasikan Hama Ulat Grayak (*Spodoptera litura*). Di bawah bimbingan Ahmad Taofik dan Ida Yusidah.

Mentimun (*Cucumis Sativus*) merupakan sayuran yang memiliki banyak manfaat dan mudah dibudidayakan. Salah satu faktor penghambat dalam budidaya tanaman mentimun (*Cucumis Sativus*) adalah adanya serangan hama ulat grayak (*Spodoptera Litura*). Ulat grayak dapat merusak tanaman hingga menyebabkan gagal panen. Pengendalian yang dapat dilakukan adalah pengendalian menggunakan pestisida nabati ekstrak umbi gadung (*Discorea hispida* Dennst) yang mengandung racun dioscorin, saponin, flavonoid, alkaloid dan tanin yang diharapkan dapat mengendalikan hama ulat grayak (*Spodoptera litura*). Tujuan dari penelitian ini adalah untuk mengetahui pengaruh aplikasi dan konsentrasi pestisida nabati ekstrak umbi gadung (*Discorea hispida* Dennst) terhadap pertumbuhan dan hasil tanaman mentimun (*Cucumis sativus*) yang diinvestasikan hama ulat grayak (*Spodoptera litura*). Penelitian ini dilaksanakan dari bulan Mei–agustus 2023 di Laboratorium Agroteknologi, UIN Sunan Gunung Djati Bandung dan di Desa Cikadu, Kecamatan Cibatu Kabupaten Purwakarta Jawa Barat. Metode penelitian yang digunakan adalah metode eksperimen Rancangan Acak Lengkap (RAL) 6 taraf perlakuan (P0 = kontrol, P1 = 2.000 ppm, P2 = 3.000 ppm, P3 = 4.000 ppm, P4 = 5.000 ppm dan P5 = 6.000 ppm) dengan 4 ulangan pada uji pendahuluan dan eksperimen Rancangan Acak Lengkap (RAK) sederhana 6 taraf perlakuan (P0 = kontrol, P1 = 2.000 ppm, P2 = 4.000 ppm, P3 = 6.000 ppm, P4 = 8.000 ppm dan P5 = 10.000 ppm) dengan 4 ulangan pada uji utama. Hasil penelitian menunjukkan bahwa pestisida nabati ekstrak umbi gadung berpengaruh terhadap mortalitas, intensitas, bobot pakan yang dimakan ulat grayak serta pertumbuhan dan hasil tanaman mentimun dengan konsentrasi terbaik adalah P5 (100.000 ppm).

Kata Kunci : mentimun, *Spodoptera litura*, umbi gadung.

ABSTRACT

Nurhanipah. 2023. The Effect of Vegetable Pesticides Gadung Tuber Extract (*Discorea hispida* Dennst) on the Growth and Yield of Cucumber Plants (*Cucumis sativus*) Invested with Armyworm Pests (*Spodoptera litura*). Under the guidance of Ahmad Taofik and Ida Yusidah.

*Cucumber (*Cucumis sativus*) is a vegetable that has many benefits and is easy to cultivate. One of the inhibiting factors in cultivating cucumber plants (*Cucumis sativus*) is the attack of armyworm pests (*Spodoptera litura*). Armyworms can damage plants and cause crop failure. The control that can be carried out is control using the vegetable pesticide gadung tuber extract (*Discorea hispida* Dennst) which contains the poison dioscorin, saponin, flavonoids, alkaloids and tannins which are expected to control armyworm pests (*Spodoptera litura*). The aim of this research was to determine the effect of the application and concentration of the botanical pesticide gadung tuber extract (*Discorea hispida* Dennst) on the growth and yield of cucumber plants (*Cucumis sativus*) invested with armyworm pests (*Spodoptera litura*). This research was carried out from May–August 2023 at the Agrotechnology Laboratory, UIN Sunan Gunung Djati Bandung and in Cikadu Village, Cibatu District, Purwakarta Regency, West Java. The research method used was a Completely Randomized Design (CRD) experimental method with 6 treatment levels (P0 = control, P1 = 2,000 ppm, P2 = 3,000 ppm, P3 = 4,000 ppm, P4 = 5,000 ppm and P5 = 6,000 ppm) with 4 replications in preliminary test (in vitro) and simple Completely Randomized Design (RAK) experiment with 6 treatment levels (P0 = control, P1 = 2,000 ppm, P2 = 4,000 ppm, P3 = 6,000 ppm, P4 = 8,000 ppm and P5 = 10,000 ppm) with 4 repetition of the main test (in vivo). The results of the research showed that the botanical pesticide gadung tuber extract had an effect on mortality, intensity, weight of feed eaten by armyworms as well as growth and yield of cucumber plants with the best concentration being P5 (100,000 ppm)*

Keywords: cucumber, *Spodoptera litura*, tuber gadung