KEANEKARAGAMAN ARTHROPODA PADA PERTANAMAN MENTIMUN MENGGUNAKAN BIOINSEKTISIDA *Bacillus thuringiensis* Plus

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ABSTRAK

Mentimun merupakan komoditas sayuran yang adaptasinya cukup luas sehingga banyak dibudidayakan oleh petani sayuran di dataran rendah maupun dataran tinggi. Adapun jenis hama yang ditemukan menyerang tanaman mentimun (*Cucumis sativus* Linneaus) yaitu *Aulacophora similis*, *Aphis* sp., *Liriomyza* sp., dan *Diaphania indica* yang dapat menyebabkan hasil produksi tanaman mentimun di Indonesia menurun. Penggunaan bioinsektisida *Bacillus thuringiensis* menjadi salah satu teknik pengendalian hama yang ramah lingkungan sehingga tetap aman bagi tanaman maupun serangga berguna. Penelitian ini bertujuan untuk mengetahui keanekaragaman arthropoda pada pertanaman mentimun yang diaplikasikan bioinsektisida *B. thuringiensis* dan pada kontrol tanpa aplikasi yang dilaksanakan di Desa Enrekeng, Kecamatan Ganra, Kabupaten Soppeng, Sulawesi Selatan mulai Desember 2021 hingga Juni 2022. Pengambilan sampel arthropoda dilakukan secara sistematis pada setiap plot dengan menggunakan metode pengamatan secara langsung (visual), jaring serangga *(sweep net*), dan perangkap jatuh *(pitfall trap*). Sampel arthropoda yang diperoleh selama delapan kali pengamatan diidentifikasi di Laboratorium Entomologi, Departemen Hama dan Penyakit Tumbuhan, Fakultas Pertanian, Universitas Hasanuddin, Makassar. Kemudian sampel dianalisis menggunakan indeks keanekaragaman ekosistem Shannon-Wiener dan Uji T independen. Pada lahan kontrol diperoleh 216 individu arthropoda herbivora dengan nilai independent indeks keragaman 2,04 (H' = Sedang) dan 135 individu pada lahan yang menggunakan bioinsektisida *B. thuringiensis* Plus dengan nilai indeks keragaman 1,92 (H' = Sedang), sedangkan untuk arthropoda musuh alami diperoleh 335 individu pada lahan kontrol dengan nilai indeks keragaman 2,22 (H' = Sedang) dan 237 individu pada lahan *B. thuringiensis* Plus dengan nilai indeks keragaman 2,40 (H' = Sedang). Pada lahan *B. thuringiensis* Plus jenis arthropoda musuh alami lebih beragam dibanding pada lahan kontrol.

Kata Kunci : Shannon-Wiener, Sistematis, *Sweep net, Pitfall trap*, Visual.

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ARTHROPODS DIVERSITY IN CUCUMBER PLANTS USING BIOINSECTICIDE *Bacillus thuringiensis* Plus

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ABSTRACT

Cucumber is a vegetable commodity whose adaptation is wide enough so that it is widely cultivated by vegetable farmers in the lowlands and highlands. The types of pests that attack cucumber plants (Cucumis sativus Linneaus.) are *Aulacophora similis*, *Aphis* sp., *Liriomyza* sp., and *Diaphania indica* which can cause the production of cucumber plants in Indonesia to decrease. The use of *Bacillus thuringiensis* bioinsecticide is an environmentally friendly pest control technique so that it remains safe for useful plants and insects. The aim of this study was to determine the diversity of arthropods in cucumber plants where the bioinsecticide *B. thuringiensis* was applied and the control without application was carried out in Enrekeng Village, Ganra District, Soppeng Regency, South Sulawesi from December 2021 to June 2022. Sampling of arthropods was carried out systematically in every year. Plots using direct observation (visual), insect nets (sweep net), and pitfall traps. Arthropod samples obtained during eight observations were identified at the Entomology Laboratory, Faculty of Agriculture, Department of Plant Pests and Diseases, Universitas Hasanuddin, Makassar. Then the samples were analyzed using the Shannon-Wiener ecosystem diversity index and independent T-test. In the control field, 216 individual of herbivorous arthropods were obtained with a Diversity index value of 2.04 (H' = Medium) and 135 individuals on the field using the bioinsecticide *B. thuringiensis* Plus a Diversity index value of 1.92 (H' = Medium), while for natural enemy arthropods, 335 individuals were obtained. Individuals on control field with a diversity index value of 2.22 (H' = Medium) and 237 individuals on *B. thuringiensis* plus field with diversity index value of 2.40 (H' = Medium). natural enemies the types of arthropods on the *B. thuringiensis* Plus field were more diverse than on the control field.

Keywords: Shannon-Wiener, Systematic, Visual, Sweep net, Pitfall trap.

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