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**Pengaruh Pembenah Tanah dan Dosis Pupuk Terhadap Keanekaragaman Artropoda Terestrial Pada Pertanaman
Tebu di Kabupaten Sleman**
Muchamad Ridwan, Dr. Ir. Arman Wijonarko, M. Sc.
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INTISARI

PENGARUH PEMBENAH TANAH DAN DOSIS PUPUK TERHADAP KEANEKARAGAMAN ARTROPODA TERESTRIAL PADA PERTANAMAN TEBU DI KABUPATEN SLEMAN

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Tebu (*Saccharum officinarum* L.) merupakan komoditas perkebunan dan berperan sebagai bahan baku industri gula. Salah satu upaya untuk meningkatkan produktivitas dan rendemen tebu adalah dengan pemberian pembenah tanah dan ketepatan dosis pupuk. Akan tetapi hal ini sering terkendala akibat adanya serangan hama karena komposisi peran artropoda yang kurang beragam. Penelitian bertujuan untuk mengetahui pengaruh pembenah tanah dan dosis pupuk terhadap keanekaragaman artropoda terestrial pada pertanaman tebu di Kabupaten Sleman. Penelitian dilaksanakan pada bulan Oktober 2025 – Maret 2026 di lahan pertanaman tebu *Ratoon Cane* 2 varietas PSJT 941 dengan diberi perlakuan T2 (Hidrogel, Silika, serta K-Humat) yang beralamat di Dusun Bedilan, Margokaton, Sayegan, Sleman, Yogyakarta. Penelitian ini mengamati artropoda terestrial dengan cara memasang perangkap *pit fall trap* dan *Berlese tull green*. Perangkap dipasang dengan interval waktu 1 minggu dan dilakukan selama 8 kali pengamatan. Identifikasi artropoda dilakukan di Laboratorium Vertebrata Hama, Departemen Hama dan Penyakit Tumbuhan, Universitas Gadjah Mada, Yogyakarta. Hasil identifikasi kemudian dihitung dengan rumus indeks biodiversitas. Hasil penelitian diketahui bahwa perlakuan dosis T2 berpengaruh nyata terhadap keanekaragaman artropoda terrestrial serta terbukti meningkatkan populasi serangga predator dan menurunkan populasi serangga hama.

Kata kunci : Keanekaragaman, Artropoda, Tebu, Pupuk, Pembenah tanah

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ABSTRACT

EFFECT OF SOIL AMELIORANT AND FERTILIZER DOSES ON TERESTRIAL ARTHROPOD DIVERSITY IN SUGARCANE PLANTATIONS IN SLEMAN REGENCY

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Sugarcane (*Saccharum officinarum* L.) is an agricultural commodity and serves as the raw material for the sugar industry. One strategy to increase sugarcane productivity is the application of soil conditioners and the use of appropriate fertilizer doses. However, this is often hindered by pest infestations due to a lack of diversity in the arthropod community. The study aims to determine the effect of soil ameliorant application and different fertilizer doses on the diversity of terrestrial arthropods in sugarcane plantation in Sleman Regency. The study was conducted from October 2025 to March 2026 on a Ratoon Cane 2 sugarcane plantation of the PSJT 941 variety, where fertilizer and soil conditioners (Hydrogel, Silica, and K-Humat) were applied. The site is located in Bedilan Hamlet, Margokaton, Sayegan, Sleman, Yogyakarta. This study monitored terrestrial arthropods by setting pitfall traps and Berlese Tull Green traps. Traps were set at one-week intervals and observations were conducted eight times. Arthropod identification was performed at the Vertebrate Pests Laboratory, Department of Plant Pests and Diseases, Gadjah Mada University, Yogyakarta. Identification results were then calculated using the biodiversity index formula. The results of the study revealed that the application of fertilizer and soil conditioner doses had a significant effect on the diversity of terrestrial arthropods and were proven to increase the population of predatory insects and reduce the population of insect pests.

Keywords: Diversity, Arthropod, Sugarcane, Fertilizer, Soil Ameliorant