

ABSTRAK

POPULASI DAN KEANEKARAGAMAN MESOFAUNA TANAH PADA PERTANAMAN NANAS (*Ananas comosus* L. Merr) DI TANAH ULTISOL LAMPUNG TENGAH SETELAH PEMBERIAN PUPUK CAMPURAN DENGAN PERBEDAAN TEKNIK DAN DOSIS APLIKASI

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Populasi dan keanekaragaman mesofauna tanah merupakan indikator kesuburan tanah yang dipengaruhi oleh penggunaan pupuk dalam tanah. Pupuk campuran (*mix fertilizer*) pada penelitian ini merupakan produksi PT GGP (*Great Giant Pineapple*) dengan campuran bahan organik dan anorganik yang mengandung unsur hara makro, mikro, serta amelioran yang diharapkan mampu meningkatkan populasi dan keanekaragaman mesofauna tanah. Tujuan dari penelitian ini adalah untuk mempelajari pengaruh teknik aplikasi dan dosis aplikasi pupuk campuran terhadap populasi dan keanekaragaman mesofauna tanah pada pertanaman nanas (*Ananas comosus* L. Merr.), serta mempelajari korelasi populasi dan keanekaragaman mesofauna tanah dengan C-organik, pH tanah, kadar air, dan suhu tanah. Penelitian dilakukan di PT. GGP dan analisis tanah dilakukan di Laboratorium Ilmu Tanah Universitas Lampung. Penelitian ini menggunakan rancangan petak terbagi yang terdiri dari 9 perlakuan dan 4 ulangan. Data dianalisis dengan analisis varian dan uji tukey dilanjutkan dengan uji BNT pada taraf 5%. Hasil penelitian menunjukkan teknik aplikasi tidak berpengaruh terhadap populasi dan keanekaragaman mesofauna tanah. Dosis aplikasi pupuk campuran 4,5 ton ha⁻¹ menunjukkan populasi dan keanekaragaman mesofauna tertinggi dibandingkan dosis aplikasi lainnya. Uji korelasi menunjukkan bahwa tidak ada korelasi antara populasi dan keanekaragaman mesofauna tanah dengan C-organik, pH, kadar air, dan suhu tanah.

Kata kunci : Dosis aplikasi, Keanekaragaman, Populasi, Mesofauna tanah, Pupuk campuran, Teknik aplikasi

ABSTRACT

POPULATION AND DIVERSITY OF SOIL MESOFAUNA IN PINEAPPLE (*Ananas comosus* L. Merr) PLANTING IN ULTISOL SOIL CENTRAL LAMPUNG AFTER APPLICATION OF MIXED FERTILIZER WITH DIFFERENT TECHNIQUES AND APPLICATION DOSAGES

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Population and diversity of soil mesofauna is an indicator of soil fertility which is influenced by the use of fertilizers in the soil. The mixed fertilizer that used in this research was produced by PT GGP (*Great Giant Pineapple*) with a mixture of organic and inorganic materials containing macro and micro nutrients, also soil ameliorants which are expected to increase the population and diversity of soil mesofauna. The purpose of this research was to study the effect of different application techniques and application dosages of mixed fertilizer application on the population and diversity of soil mesofauna in pineapple (*Ananas comosus* L. Merr.) plantations, as well as study the correlation of soil mesofauna population and diversity with organic-C, soil pH, water content, and soil temperature. This research was conducted at PT. GGP and soil analysis were carried out at the Laboratory of Soil Science, University of Lampung. This research used a split plot design consisting of 9 treatments and 4 replications. Data were analyzed by analysis of variance and tukey test followed by LSD test at 5% confidence level. The results showed that the application technique had no effect on the population and diversity of soil mesofauna. The mixed fertilizer application dose of 4.5 tons ha⁻¹ showed the highest mesofauna population and diversity compared to other application doses. Correlation test showed that there was no correlation between population and soil mesofauna diversity with organic-C, pH, moisture content, and soil temperature.

Keywords : Application dosage, Application technique, Diversity, Mixed fertilizer, Population, Soil mesofauna.