

ABSTRAK

POPULASI DAN KEANEKARAGAMAN MESOFAUNA TANAH PADA TANAMAN NANAS (*Ananas comosus* L.) DI TANAH ULTISOL SETELAH APLIKASI KOMPOS KOTORAN SAPI DAN PUPUK PREMIUM DI PT *GREAT GIANT PINEAPPLE*

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Lahan marginal merupakan lahan kering yang miskin unsur hara, salah satunya adalah tanah Ultisol. Tanah Ultisol memiliki masalah seperti kandungan bahan organik rendah, pH tanah rendah, dan kandungan hara rendah. Hal ini dapat mempengaruhi keberadaan mesofauna tanah. Penambahan bahan organik seperti kompos kotoran sapi dan pupuk premium menjadi salah satu upaya untuk meningkatkan keberadaan mesofauna tanah. Penelitian ini bertujuan untuk mengetahui apakah pemberian kompos kotoran sapi dan pupuk premium mampu meningkatkan keberadaan mesofauna tanah di pertanaman nanas PT *Great Giant Pineapple*. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) yang terdiri dari 4 perlakuan dan 4 ulangan. Perlakuan P₁ = standar budidaya nanas, P₂ = kompos kotoran sapi, P₃ = pupuk premium A, P₄ = pupuk premium B. Data yang diperoleh diuji homogenitas ragam dengan uji Bartlett dan aditifitasnya dengan uji Tukey, kemudian dilakukan analisis ragam taraf 5%. Jika asumsi terpenuhi maka data diuji lanjut menggunakan uji Ortogonal Kontras. Hasil penelitian menunjukkan bahwa penambahan kompos kotoran sapi dan pupuk premium mampu meningkatkan populasi mesofauna tanah, namun tidak berpengaruh nyata pada keanekaragaman mesofauna tanah. Hasil analisis menunjukkan bahwa populasi mesofauna tanah pada perlakuan P₂, P₃, dan P₄ berbeda nyata lebih tinggi dibandingkan dengan perlakuan P₁ pada 22 BST. Uji korelasi menunjukkan adanya korelasi negatif antara C-organik tanah dan kadar air tanah dengan populasi mesofauna tanah dan tidak adanya korelasi antara variabel pendukung dengan keanekaragaman mesofauna tanah.

Kata kunci: Tanah Ultisol, Kompos kotoran sapi, Pupuk premium, dan Mesofauna tanah

ABSTRACT

POPULATION AND DIVERSITY OF SOIL MESOFAUNA IN PINEAPPLE PLANTS (*Ananas comosus* L.) IN ULTISOL SOIL AFTER APPLICATION OF COW DUNG COMPOST AND PREMIUM FERTILIZER AT PT *GREAT GIANT PINEAPPLE*

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Marginal land is dry land that is poor in nutrients, one of which is Ultisol soil. Ultisol soil has problems such as low organic matter content, low soil pH, and low nutrient content. This can affect the existence of soil mesofauna. The addition of organic matter such as cow dung compost and premium fertilizer is one effort to increase the existence of soil mesofauna. This study aims to determine whether the provision of cow dung compost and premium fertilizer can increase the existence of soil mesofauna in pineapple plantations of PT *Great Giant Pineapple*. This study used a Randomized Block Design (RAK) consisting of 4 treatments and 4 replications. Treatment P₁ = pineapple cultivation standard, P₂ = cow dung compost, P₃ = premium fertilizer A, P₄ = premium fertilizer B. The data obtained were tested for homogeneity of variance with the Bartlett test and additivity with the Tukey test, then a 5% level analysis of variance was carried out. If the assumptions are met, the data is further tested using the Orthogonal Contrast test. The results showed that the addition of cow dung compost and premium fertilizer was able to increase the population of soil mesofauna, but had no significant effect on the diversity of soil mesofauna. The results of the analysis showed that the soil mesofauna population in treatments P₂, P₃, and P₄ were significantly higher compared to treatment P₁ at 22 BST. The correlation test showed a negative correlation between C-organic and soil water content with the soil mesofauna population and no correlation between supporting variables and the diversity of soil mesofauna.

Keywords: Ultisol soil, Cow dung compost, Premium fertilizer, and Soil mesofauna