

ABSTRAK

POPULASI DAN KEANEKARAGAMAN MESOFAUNA TANAH PADA BERBAGAI SISTEM PENGOLAHAN TANAH DI PERTANAMAN NANAS (*Ananas comosus* L. Merr), PT. *GREAT GIANT PINEAPPLE*

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Degradasi merupakan keadaan suatu lahan yang berkurang produktivitas tanahnya yang disebabkan oleh pengolahan tanah intensif. Pengolahan tanah intensif dapat menyebabkan pemadatan tanah dan penurunan kesuburan tanah serta memengaruhi keberadaan mesofauna tanah. Modifikasi pengolahan tanah dan perbedaan waktu pemberian kompos menjadi salah satu upaya untuk memperbaiki kesuburan tanah dan mendukung keberadaan mesofauna tanah. Penelitian ini bertujuan untuk mengetahui dampak berbagai sistem pengolahan tanah terhadap populasi dan keanekaragaman mesofauna tanah pada pertanaman nanas di PT. *Great Giant Pineapple*. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) yang terdiri dari 5 perlakuan dan 3 ulangan. Perlakuan P_1 = perlakuan standard budidaya tanaman nanas, P_2 = kompos setelah *moalboard*, P_3 = kompos sebelum *rotary lu* dan *moalboard*, P_4 = kompos sebelum *rotary tiller* dan *moalboard*, dan P_5 = kompos sebelum *rotary tiller* dan tanpa *moalboard*. Data yang diperoleh diuji homogenitas ragam dengan uji Bartlett dan aditifitasnya dengan uji Tukey, kemudian dilakukan uji analisis ragam taraf 5%. Jika asumsi terpenuhi maka data diuji lanjut menggunakan uji BNT taraf 5%. Hasil analisis menunjukkan bahwa berbagai sistem pengolahan tanah tidak berpengaruh terhadap populasi mesofauna tanah pada seluruh waktu pengamatan. Keanekaragaman mesofauna tanah pada perlakuan P_4 (kompos sebelum *rotary tiller* dan *moalboard*) berpengaruh lebih tinggi dibandingkan perlakuan lainnya pada waktu pengamatan 12 BST. Mesofauna tanah yang mendominasi selama penelitian adalah ordo *Acarina*. Uji korelasi menunjukkan adanya korelasi negatif antara suhu tanah dengan populasi mesofauna tanah dan adanya korelasi positif antara pH tanah dengan populasi mesofauna tanah.

Kata kunci: Degradasi Lahan, Berbagai Sistem Pengolahan Tanah, Mesofauna Tanah, dan Kompos.

ABSTRACT

POPULATION AND DIVERSITY OF SOIL MESOFAUNA IN VARIOUS SOIL CARE SYSTEMS IN PINEAPPLE (*Ananas comosus* L. Merr) PLANTATIONS, PT. GREAT GIANT PINEAPPLE

By

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Degradation is the condition of a land where its soil productivity is reduced due to intensive land cultivation. Intensive tillage can cause soil compaction and decrease soil fertility and affect the existence of soil mesofauna. Modifying soil processing and varying the timing of compost application is an effort to improve soil fertility and support the existence of soil mesofauna. This research aims to determine the impact of various land processing systems on the population and diversity of soil mesofauna in pineapple plantations at PT. Great Giant Pineapple. This research used a Randomized Block Design (RBD) consisting of 5 treatments and 3 replications. Treatment P₁ = standard treatment for pineapple cultivation, P₂ = compost after moalboard, P₃ = compost before rotary tiller and moalboard, P₄ = compost before rotary tiller and moalboard, and P₅ = compost before rotary tiller and without moalboard. The data obtained were tested for homogeneity of variance using the Bartlett test and additivity using the Tukey test, then a 5% level analysis of variance test was carried out. If the assumptions are met then the data is tested further using the LSD test at the 5% level. The results of the analysis showed that various soil processing systems did not affect the soil mesofauna population during the entire observation period. The diversity of soil mesofauna in the P₄ treatment (compost before rotary tiller and moalboard) had a higher effect than other treatments at the observation period of 12 BST. The dominant soil mesofauna during the study was the Acarina order. The correlation test showed a negative correlation between soil temperature and the soil mesofauna population and a positive correlation between soil pH and the soil mesofauna population.

Keywords: Land Degradation, Various Tillage, Soil Mesofauna, and Compost.