

## ABSTRAK

### PENGARUH APLIKASI KOMPOS KOTORAN SAPI DAN PUPUK PREMIUM TERHADAP RESPIRASI TANAH PADA PERTANAMAN NANAS *RATOON* DI LAMPUNG TENGAH

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Respirasi tanah merupakan indikator kesuburan tanah. Pupuk premium merupakan pupuk yang terdiri dari campuran bahan organik dan bahan amelioran Tujuan penelitian ini adalah untuk mempelajari pengaruh pemberian kompos kotoran sapi dan pupuk premium terhadap respirasi tanah pada pertanaman nanas *ratoon*. Penelitian dilaksanakan di PT *Great Giant Pineapple*, Lampung Tengah. Penelitian ini menggunakan Rancangan Acak Kelompok yang terdiri dari 4 perlakuan dan 4 ulangan. Perlakuan terdiri dari P<sub>1</sub> = standar budidaya nanas, P<sub>2</sub> = kompos kotoran sapi 100% (50 ton ha<sup>-1</sup>), P<sub>3</sub> = pupuk premium A (kompos kotoran sapi 77,6%, batubara muda 9,8%, zeolit 9,8%, *liquid organic biofertilizer* 1,8%, vermikompos 1%), P<sub>4</sub> = pupuk premium B (kompos kotoran sapi 72,7%, batubara muda 14,7%, zeolit 9,8%, *liquid organic biofertilizer* 1,8%, vermikompos 1%). Data yang diperoleh dianalisis dengan analisis ragam pada taraf 5% yang telah diuji homogenitas ragam dengan Uji Bartlett dan additivitasnya dengan Uji Tukey. Kemudian data di uji lanjut menggunakan Uji Ortogonal Kontras. Selanjutnya untuk mengetahui hubungan antara variabel pendukung dengan variabel utama menggunakan Uji Korelasi. Hasil penelitian menunjukkan bahwa respirasi tanah pada pengamatan 19 BST perlakuan kompos kotoran sapi (P<sub>2</sub>), pupuk premium A (P<sub>3</sub>), pupuk premium B (P<sub>4</sub>) secara nyata lebih tinggi dibandingkan dengan standar budidaya nanas (P<sub>1</sub>), dan respirasi tanah pada perlakuan pupuk premium B (P<sub>4</sub>) secara nyata lebih tinggi dibandingkan pupuk premium A (P<sub>3</sub>). Hasil uji korelasi menunjukkan adanya korelasi positif antara biomassa C-mik tanah dengan respirasi tanah pada pengamatan 19 BST.

**Kata kunci:** kompos kotoran sapi, nanas *ratoon*, pupuk premium, respirasi tanah

## ABSTRACT

### EFFECT OF COW DUNG COMPOST AND PREMIUM FERTILIZER APPLICATION ON SOIL RESPIRATION IN RATOON PINEAPPLE PLANTATIONS IN CENTRAL LAMPUNG

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Soil respiration is an indicator of soil fertility. Premium fertilizer is a fertilizer consisting of a mixture of organic materials and ameliorant materials. The purpose of this research is to study the effect of cow dung compost and premium fertilizer on soil respiration in ratoon pineapple plantations. The research was conducted at PT Great Giant Pineapple, Central Lampung. This study used a Randomized Block Design consisting of 4 treatments and 4 replications. The treatments consisted of P<sub>1</sub> = standard pineapple cultivation, P<sub>2</sub> = 100% cow dung compost (50 tons ha<sup>-1</sup>), P<sub>3</sub> = premium fertilizer A (cow dung compost 77,6%, lignite 9,8%, zeolite 9,8%, liquid organic biofertilizer 1,8%, vermicompost 1%), P<sub>4</sub> = premium fertilizer B (cow dung compost 72,7%, lignite 14,7%, zeolite 9,8%, liquid organic biofertilizer 1,8%, vermicompost 1%). The data obtained were analyzed by analysis of variance at the 5% level which had been tested for homogeneity of variance with the Bartlett Test and additivity with the Tukey Test. Then the data were further tested using Orthogonal Contrast Test. Furthermore, to determine the relationship between supporting variables with the main variable using the Correlation Test. The results showed that soil respiration at 19 BST observation of 100% cow dung compost treatment (P<sub>2</sub>), premium fertilizer A (P<sub>3</sub>), premium fertilizer B (P<sub>4</sub>) was significantly higher than the standard pineapple cultivation (P<sub>1</sub>), and soil respiration in the treatment of premium fertilizer B (P<sub>4</sub>) was significantly higher than the standard fertilizer A (P<sub>3</sub>). The results of the correlation test showed a positive correlation between soil C-mic biomass and soil respiration at observation 19 BST.

**Key words:** cow dung compost, premium fertilizer, ratoon pineapple, soil respiration