

## **ABSTRAK**

### **KETERSEDIAAN UNSUR HARA MIKRO DAN PRODUKSI TANAMAN PADI SETELAH PEMBERIAN PUPUK HAYATI CAIR DAN PUPUK KIMIA PADA LAHAN PADI SAWAH DI TRIMURJO, LAMPUNG TENGAH**

**Oleh**

**Bayu Putra Tri Atmojo**

Penurunan produksi padi saat ini disebabkan karena pemupukan yang tidak seimbang sehingga dapat menurunkan kesuburan tanah. Oleh karena itu dilakukan penambahan pupuk hayati sebagai suatu upaya untuk meningkatkan kesuburan tanah. Penelitian ini bertujuan untuk mengetahui pengaruh aplikasi pupuk hayati cair terhadap ketersediaan unsur hara mikro pada tanah sawah, pertumbuhan dan produksi tanaman padi, serta pengaruhnya dalam menekan penggunaan pupuk kimia pada tanah sawah. Penelitian dilakukan di Desa Pujoasri, Trimurjo, Lampung Tengah. Analisis tanah dan tanaman dilakukan di Laboratorium Cogen PT. Great Giant Pineapple, Lampung Tengah, pada Oktober 2020 - Maret 2021. Penelitian ini menggunakan rancangan acak kelompok (RAK) dengan 4 perlakuan yaitu P<sub>0</sub> (Pupuk kimia 100%), P<sub>1</sub> (pupuk kimia 100% + pupuk hayati cair 100%), P<sub>2</sub> (pupuk kimia 75% + pupuk hayati cair 100%), P<sub>3</sub> (pupuk kimia 50% + pupuk hayati cair 100%) dengan 3 ulangan. Data dianalisis menggunakan analisis ragam dan uji duncan taraf 5%. Hasil penelitian menunjukkan bahwa pemberian pupuk hayati cair dan pupuk kimia belum berpengaruh nyata terhadap ketersediaan unsur hara Fe, Mn, dan Zn dalam tanah. Selanjutnya, pemberian pupuk hayati cair memiliki pengaruh nyata dibandingkan dengan pupuk kimia pada aspek kesuburan tanah berupa pH tanah pada 100 HST (5,20-5,65) serta C-organik tanah pada 50 HST dan 100 HST (0,41-1,48). Sedangkan untuk parameter pertumbuhan dan produksi tanaman padi didapatkan hasil yang tidak berpengaruh nyata terhadap aplikasi pupuk hayati cair dan pupuk kimia. Sehingga dalam penelitian ini pupuk hayati belum memberikan pengaruh yang signifikan dalam menekan penggunaan pupuk kimia.

**Kata Kunci:** Unsur Hara Mikro, Pupuk Kimia, Pupuk Hayati, dan Padi .

## **ABSTRACT**

### **Availability of Micro Nutrients in Paddy Soil and Rice Production After Administration of Liquid Biological Fertilizers and Chemical Fertilizers in Lowland Rice Land in Trimurjo, Central Lampung**

**By**

**Bayu PutraTri Atmojo**

The current decline in rice production is caused by unbalanced fertilization that can reduce to soil fertility. Therefore, the addition of biological fertilizers as an effort to increase soil fertility. This study aims to determine the effect of the application of liquid biofertilizers on the availability of micro-nutrients in paddy soil, growth and production of rice plants, and their effect on suppressing the use of chemical fertilizers in paddy soil. The research was conducted in Pujoasri Village, Trimurjo, Central Lampung. Soil and plant analysis was carried out at the Cogen Laboratory of PT. Giant Pineapple Central Lampung in October 2020 - March 2021. This study used a Randomized Block Design (RBD) with 4 treatments, namely P<sub>0</sub> (100% chemical fertilizer), P<sub>1</sub> (100% chemical fertilizer + 100% liquid biological fertilizer), P<sub>2</sub> (75 % chemical fertilizer + 100% liquid biofertilizer), P<sub>3</sub> (50% chemical fertilizer + 100% liquid biofertilizer) with 3 replications. Data were analyzed using analysis of variance and Duncan's test at the 5% level. The results showed that the application of liquid biological fertilizers and chemical fertilizers had no significant effect on the availability of Fe, Mn, and Zn nutrients in the soil. Furthermore, the application of liquid biological fertilizers has a significant effect compared to chemical fertilizers on soil fertility aspects in the form of soil pH at 100 HST (5.20-5.65) and soil organic C at 50 HST and 100 HST (0.41-1.48). ). As for the parameters of growth and production of rice plants, results were obtained that did not significantly affect the application of liquid biological fertilizers and chemical fertilizers. So that in this study biological fertilizers have not had a significant effect on suppressing the use of chemical fertilizers.

**Keywords:** Micro Nutrients, Chemical Fertilizers, Biological Fertilizers, and Rice.