

ABSTRAK

PENINGKATAN KETERSEDIAAN N, P, C-ORGANIK DAN PRODUKSI TANAMAN PADI SAWAH (*Oryza sativa* L.) VARIETAS CIHERANG DENGAN PENAMBAHAN PUPUK HAYATI CAIR

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Padi merupakan tanaman penghasil beras sebagai makanan pokok masyarakat Indonesia. Penggunaan pupuk anorganik tanpa diimbangi pemberian pupuk organik dalam tanah menyebabkan produksi padi menurun. Pemanfaatan pupuk hayati cair perlu dikembangkan dalam memperbaiki kesuburan tanah. Penelitian dilakukan untuk mengetahui pengaruh pengaplikasian pupuk hayati cair terhadap ketersediaan N, P, dan C-organik tanah, pertumbuhan dan produksi tanaman, serta mengetahui pengaruh pupuk hayati cair dalam menekan penggunaan pupuk kimia pada lahan padi sawah. Penelitian dilakukan pada lahan sawah di Kecamatan Trimurjo, Lampung Tengah. Penelitian dilaksanakan pada bulan Oktober 2020-Januari 2021. Analisis tanah dilakukan di Laboratorium Cogen di PT. Great Giant Food Terbanggi Besar, Lampung Tengah. Penelitian ini dilakukan dengan rancangan acak kelompok (RAK) 4 perlakuan dan 3 kali ulangan, P0 (Pupuk Kimia 100%), P1 (Pupuk Kimia 100% + Pupuk Hayati Cair 100%), P2 (Pupuk Kimia 75% + Pupuk Hayati Cair 100%), P3 (Pupuk Kimia 50 % + Pupuk Hayati Cair 100%). Data diolah dengan analisis ragam dan dilanjutkan dengan uji DMRT taraf 5%. Hasil penelitian menunjukkan penambahan pupuk hayati cair meningkatkan ketersediaan N tanah, namun ketersediaan P hanya meningkat pada 50 HST di kedalaman 0–10 cm dan C-organik pada 50 HST di kedalaman 10–20 cm dan 100 HST di kedalaman 0–10 cm dibandingkan perlakuan Kontrol, penambahan pupuk hayati cair belum mampu meningkatkan pertumbuhan dan produksi, namun perlakuan P3 menunjukkan hasil produksi lebih tinggi dibandingkan perlakuan Kontrol. Penambahan pupuk hayati cair mampu menekan penggunaan pupuk kimia.

Kata kunci : C-organik, N-total, P-tersedia, padi ciherang, pupuk hayati cair

ABSTRACT

INCREASING THE AVAILABILITY OF N, P, C-ORGANIC AND PRODUCTION OF CIHERANG PARK RICE (*Oryza sativa L.*) VARIETIES WITH THE ADDITION OF LIQUID BIOLOGICAL FERTILIZER

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Rice is a rice-producing plant as the staple food of Indonesian society. The use of inorganic fertilizers without adding organic fertilizers to the soil causes a decrease in rice production. Utilization of liquid biological fertilizers needs to be developed in improving soil fertility. The research was conducted to determine the effect of applying liquid biofertilizers on the availability of N, P, and C-organic soil, plant growth and production, and to determine the effect of liquid biofertilizers in reducing the use of chemical fertilizers in lowland rice fields. The research was conducted on paddy fields in Trimurjo District, Central Lampung. The research was conducted in October 2020-January 2021. Soil analysis was carried out at the Cogen Laboratory at PT. Great Giant Food Terbanggi Besar, Central Lampung. This research was conducted in a randomized block design (RBD) with 4 treatments and 3 replications, P0 (100% Chemical Fertilizer), P1 (100% Chemical Fertilizer + 100% Liquid Biological Fertilizer), P2 (75% Chemical Fertilizer + 100% Liquid Biological Fertilizer), P3 (50% Chemical Fertilizer + 100% Liquid Biological Fertilizer). The data were processed by analysis of variance and continued with the 5% level DMRT test. The results showed that the addition of liquid biological fertilizers increased the availability of soil N, but the availability of P only increased at 50 HST at a depth of 0–10 cm and C-organic at 50 HST at a depth of 10–20 cm and 100 HST at a depth of 0–10 cm compared to the treatment. In the control, the addition of liquid biological fertilizers was not able to increase growth and production, but the P3 treatment showed higher yields than the control treatment, the addition of liquid biological fertilizer can reduce the use of chemical fertilizers.

Keywords : C-organic, N-total, P-available, ciherang rice, liquid biofertilizer