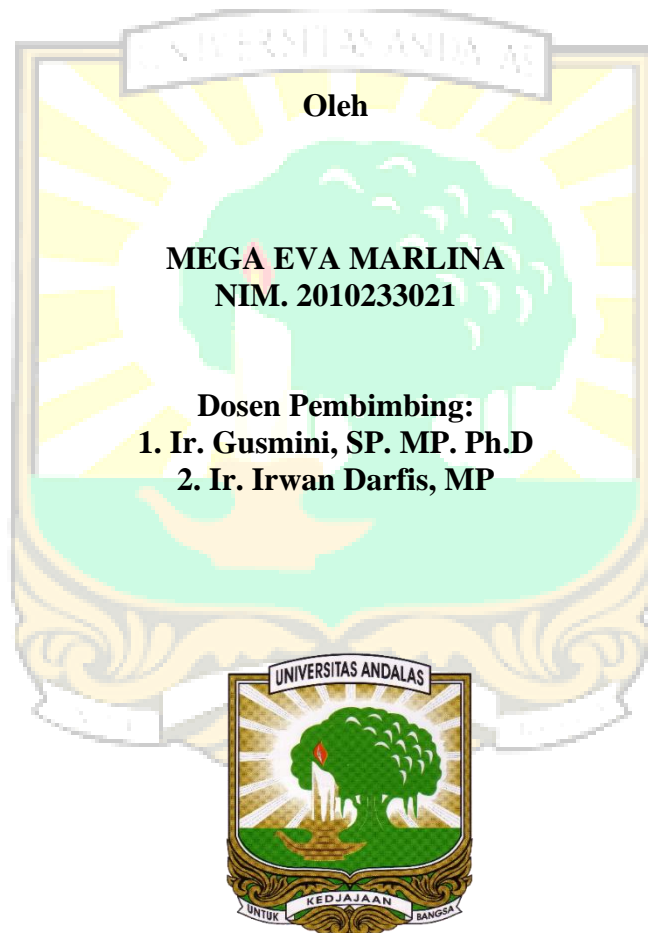


**APLIKASI PUPUK ORGANIK ABU TANDAN KOSONG
KELAPA SAWIT PLUS TERHADAP KETERSEDIAAN
FOSFOR PADA TANAMAN PADI (*Oryza Sativa L*)**

SKRIPSI



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Abstrak

Pemberian pupuk organik abu tandan kosong kelapa sawit plus merupakan upaya dalam menangani permasalahan lahan sawah terhadap kekurangan bahan organik, tingginya kadar Fe yang mengakibatkan rendahnya kadar hara fosfor (P). Unsur P di dalam tanah mengalami berbagai reaksi seperti fiksasi. Tujuan penelitian ini adalah mengkaji pengaruh penggunaan pupuk organik abu tandan kosong kelapa sawit plus terhadap ketersediaan fosfor di dalam tanah serta dosis pupuk organik yang efektif terhadap pertumbuhan dan produksi tanaman padi. Penelitian dilakukan di Kelurahan Limau Manis, Kecamatan Pauh, Padang, Sumatera Barat, menggunakan metode Rancangan Acak Kelompok (RAK) dengan 5 perlakuan 3 ulangan. Perlakuan yang diuji merupakan kombinasi antara pupuk organik abu tandan kosong kelapa sawit plus dan $\frac{3}{4}$ dosis pupuk dasar (Kontrol, 4 ton/ha ATKKS, 2 ton/ha ATKKS + pupuk dasar, 4 ton/ha ATKKS + pupuk dasar, 6 ton/ha ATKKS + pupuk dasar) yang di inkubasi selama 2 minggu. Parameter yang analisis yaitu pH H₂O, Fe-dd, C-organik, KTK, P-tersedia dan P-total. Hasil penelitian yang menunjukkan perlakuan 4 ton/ha ATKKS + pupuk dasar terbaik dan paling efisien meningkatkan pH hingga 6,83, C-organik hingga 1,16%, KTK hingga 24,18 cmol/kg, P-tersedia hingga 32,01 ppm, P-total hingga 111,01 ppm, menurunkan Fe hingga 58,1 ppm serta memperbaiki pertumbuhan tanaman seperti meningkatkan tinggi tanaman hingga 137,93 cm, jumlah anakan hingga 19,6 batang/rumpun, jumlah anakan produktif hingga 10 batang/rumpun, hasil tanaman padi hingga 9,26 ton/ha. Dosis 4 ton/ha ATKKS + pupuk dasar merupakan solusi terbaik karena mampu meningkatkan ketersediaan P dan meningkatkan hasil tanaman padi.

Kata kunci : Abu Tandan Kosong Kelapa Sawit Plus, Fosfor, Pupuk Dasar, Sawah, Tanaman Padi

APPLICATION OF ORGANIC FERTILIZER DENIVED FROM PALM EMPTY FRUIT BUNCH ASH PLUS TO PHOSPHORUS AVAILABILITY IN RICE PLANTS (*Oryza Sativa L*)

Abstract

The application of organic fertilizer denived from oil palm empty fruit bunch ash plus is an effort to deal with the problems of paddy fields due to the lack of organic matter, high levels of Fe which results in low levels of Phosphorus (P) nutrient. Phosphorus element in the soil undergoes various reactions such as fixation. The purpose of this study was to examine the application effect of organic fertilizer denived from oil palm empty fruit bunch ash plus on the availability of phosphorus in the soil and the effective dose of organic fertilizer for the growth and production of rice crops. The research was conducted in Limau Manis Village, Pauh Sub-district, Padang, West Sumatra, using the Randomized Block Design (RBD) method with 5 treatments and 3 replications. The treatments were a combination between organic fertilizer devined from oil palm empty fruit bunch ash plus and $\frac{3}{4}$ of the base fertilizer dose (Control, 4 tons/ha ATKKS, 2 tons/ha ATKKS + base fertilizer, 4 tons/ha ATKKS + base fertilizer, 6 tons/ha ATKKS + base fertilizer) the organic fertilizer was incubated for 2 weeks. In soil chemistry analysis parameters were pH H₂O, Fe exchangeable, C-organic, CEC, P-available and P-total. The results showed that the treatment of 4 tons/ha of base fertilizer was the best and efficient treatment which increased pH up to 6,83, C-organic up to 1,16%, CEC up to 24,18 cmol/kg, P-available up to 32,01 ppm, P-total up to 111,01 ppm, reduced Fe up to 58,10 ppm increased plant height up to 137,93 cm, number of tillers up to 19,6 stem/shoot, number of productive tillers up to 10 stem/shoot, rice yield up to 9,26 tons/ha. A dose of 4 ton/ha ATKKS + base fertilizer is the best solution because it can increase P availability and increase rice yield.

Keywords: Base fertilizer, Oil Palm Empty Bunch Ash Plus, Paddy Field, Phosphorus, Rice Plant