

## **INTISARI**

Penelitian ini berjudul Pengaruh Kompos Tandan Kosong Kelapa Sawit dan Pupuk NPK terhadap Pertumbuhan Sorgum di Pasir Pantai Samas, Bantul. Tujuan dari penelitian ini yaitu untuk mengetahui pengaruh kompos Tandan Kosong Kelapa Sawit (TKKS) dan pupuk NPK terhadap sifat kimia tanah, pertumbuhan vegetatif maksimum, dan serapan N, P, K pada tanaman sorgum. Rancangan penelitian yang digunakan yaitu rancangan acak lengkap (RAL) faktorial dengan 3 faktor dan 3 ulangan (1 perlakuan tanpa tanaman). Pengambilan sampel tanah dilakukan di Pantai Samas, Srigading, Bantul. Pengamatan tanaman dan pengamatan rumah kaca dilakukan setiap minggu sampai fase vegetatif maksimum. Kombinasi perlakuan kompos TKKS dan pupuk NPK menunjukkan hasil yang berpengaruh nyata dalam meningkatkan pH KCl, DHL, C-organik, N-Total, P-Tersedia, K-Tersedia, BV, BJ, porositas, permeabilitas tanah, dan bobot kering tanaman. Tetapi tidak berpengaruh nyata yaitu meningkatkan pH H<sub>2</sub>O, KPK, tinggi tanaman, jumlah daun dan bobot segar tanaman. Serapan N, P dan K akar tertinggi yaitu pada perlakuan A7 dengan kombinasi kompos TKKS 120 ton/ha + pupuk NPK 75 kg/ha yakni sebesar 3.82 mg/tanaman, 0.38 mg/tanaman dan 7.10 mg/tanaman. Sedangkan serapan N, P dan K tajuk tertinggi pada perlakuan A4 dengan kombinasi kompos TKKS 60 ton/ha + pupuk KPK 75 kg/ha yakni sebesar 42.50 mg/tanaman, 3.85 mg/tanaman and 77.99 mg/tanaman.

**Kata Kunci :** Kompos TKKS, Pupuk NPK, Serapan NPK, Sorgum

**ABSTRACT**

This study entitled The Effect of Oil Palm Empty Fruit Bunch (EFB) Compost and NPK Fertilizer on Sorghum Growth in Samas Beach Sand, Bantul. The purpose of this study was to determine the effect of Compost EFB and NPK fertilizer on soil chemical properties, vegetative growth, and NPK uptake in sorghum plants. The research design used was a factorial completely randomized design (CRD) with 3 factors and 3 replications. Soil sampling was taken from Samas Beach, Srigading, Bantul. Plant observations and greenhouse observation were carried out every week until the maximum vegetative phase. The treatments of Compost EFB and NPK fertilizer showed significant results that can increase on pH of KCl, electrical conductivity, soil organic matter, Total-N, P-available, K-available, soil density, bulk density, permeability, and tissue dry weight. But had no significant effect that can increase on pH of H<sub>2</sub>O, cation exchange capacity, plant height, number of leaves and tissue fresh weight. The highest N, P and K uptake by roots was in the treatment of A7 with combination 120 ton/ha EFB of Oil Palm + 75 kg/ha NPK fertilizer, which was 3.82 mg/plant, 0.38 mg/plant and 7.10 mg/plant. The highest N, P and K uptake by shoots was in the treatment of A4 with combination 60 ton/ha EFB of Oil Palm + 75 kg/ha NPK fertilizer, which was 42.50 mg/plant, 3.85 mg/plant and 77.99 mg/plant.

**Key Words :** NPK Fertilizer, Oil Palm Empty Fruit Bunch Compost, *Sorghum Bicolor* (L.) Moench, N, P, K Uptake