

KRISWORD WICAKSONO. 140311100015. Pengaruh Residu Biochar Terhadap Efisiensi Penggunaan Air, Pertumbuhan, dan Hasil Kacang Hijau (*Vigna radiata* L.) Varietas Vima-1. Dibimbing Oleh: **Dr. Ir. H. Ahmad arsyad Munir, M.Si.**

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh residu biochar terhadap efisiensi penggunaan air, pertumbuhan dan hasil. Penelitian dilakukan pada bulan Mei sampai Juli 2019 di kebun percobaan Agroteknologi Universitas Trunojoyo Madura. Penelitian menggunakan Rancangan Acak Kelompok (RAK) non faktorial dengan 8 perlakuan yang di ulang 4 kali. Perlakuan terdiri dari: tanpa residu biochar, residu biochar 5 ton/ha tahap kedua, residu biochar 10 ton/ha tahap kedua, residu biochar 15 ton/ha tahap kedua, residu biochar 10 ton/ha tahap pertama, residu biochar 10 ton/ha tahap pertama + residu biochar 5 ton/ha tahap kedua, residu biochar 10 ton/ha tahap pertama + residu biochar 10 ton/ha tahap kedua, residu biochar 10 ton/ha tahap pertama + residu biochar 15 ton/ha tahap kedua. Perlakuan residu biochar berpengaruh nyata terhadap tinggi tanaman, bobot basah daun, dan bobot kering batang. Pada perlakuan residu biochar Residu biochar 5 ton/ha periode pertama, mendapatkan hasil tertinggi pada parameter kapasitas maksimum menahan air, sedangkan perlakuan residu biochar 10 ton/ha tahap pertama menghasilkan efisiensi penggunaan air, luas daun, waktu pembungaan, bobot basah akar, bobot basah batang, bobot kering akar, bobot kering daun, bobot biji, Bobot 100 biji, yang cenderung tinggi dibandingkan perlakuan lainnya.

Kata kunci: kacang hijau, residue biochar, efisiensi penggunaan air.

KRISWORO WICAKSONO. 140311100015. Impact of Biochar residue on Water Use Efficiency, Growth, and Result of Green Beans (*Vigna radiata* L.). Supervisor: Dr. Ir. H. Ahmad Arsyad Munir, M.Si..

ABSTRACT

This study aims to determine the effect of biochar residues on water use efficiency, growth and result of greenbean. The study was conducted in may to july 2019 in the Agrotechnology experimental garden of trunojoyo University, Madura. The study used a non factorial randomized block design with 8 treathment that were repeated 4 times. The treatments consist of : without biochar residue, biochar residue 5 ton/ha second stage, biochar residue 10 ton/ha second stage, biochar residue 15 ton/ha second stage, biochar residue 10 tons/ha first stage, residue biochar 10 tons/ha first stage + biochar residue 5 tons/ha second stage, residue biochar 10 tons/ha first stage + biochar residue 10 tons/ha second stage, residue biochar 10 tons/ha first stage + biochar residue 15 tons/ha second stage. Biochar residue treathment significantly affected plant height, leaf wet weigh, and stem dry wight. In the first period of biochar residue treatment of 5 tons/ha biochar residue , the highest yield in the maximum water holding capacity parameter, while the first stage of biochar residue treatment of 10 ton/ha resulted in efficient use of water, leaf area, flowering time, root wet wight, seed weight, leaf dry weight seed weight, 100 seed weight, wich tends to be high compared to other treatments.

Keywords: green beans, biochar residue, Water use efficiency.