# PENGARUH PEMBERIAN BIOCHAR TEMPURUNG KELAPA DAN PUPUK KANDANG SAPI TERHADAP NPK TERSEDIA REGOSOL PASIR PANTAI DAN PERTUMBUHAN TANAMAN SELADA (*Lactuca sativa* L.)

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## ABSTRAK

Pasir pantai merupakan jenis tanah dengan produktivitas tanah rendah. Penambahan biochar tempurung kelapa dan pupuk kandang sapi ke dalam tanah dapat meningkatkan ketersediaan unsur hara. Tujuan penelitian yaitu untuk mengetahui pengaruh pemberian biochar tempurung kelapa dan pupuk kandang sapi terhadap sifat kimia tanah dan pertumbuhan selada di tanah Regosol pasir pantai. Penelitian dilaksanakan di rumah kaca Fakultas Pertanian UPN "Veteran" Yogyakarta dan pembuatan biochar dilakukan di Desa Potorono, Banguntapan, Bantul, Yogyakarta. Metode penelitian dilakukan dengan Rancangan Acak Lengkap (RAL) 2 faktor, yaitu dosis biochar tempurung kelapa dan pupuk kandang sapi yang terdiri dari 4 aras yaitu 0, 10, 15, 20 ton/ha. Parameter yang diamati yaitu, tinggi tanaman, jumlah daun, berat basah tanaman, pH, NPK tersedia dan Kapasitas Pertukaran Kation (KPK). Untuk mengetahui pengaruh perlakuan digunakan Sidik Ragam, untuk menguji perbedaan antar rerata perlakuan digunakan uji *Duncan Multiple Range Test* (DMRT) dengan jenjang nyata 5%. Hasil penelitian menunjukkan bahwa pemberian biochar tempurung kelapa dan pupuk kandang sapi berpengaruh nyata terhadap peningkatan kandungan N tersedia dari 1.00 ppm menjadi 49.89 ppm dan P tersedia pada tanah dari 2.85 ppm menjadi 52.67 ppm. Kombinasi perlakuan biochar tempurung kelapa dan pupuk kandang sapi dengan dosis B1P1 berpengaruh terhadap peningkatan pH $H_2O$, dosis B3P3 terhadap KPK, B0P2 terhadap N tersedia, B1P2 terhadap P tersedia dan B3P3 terhadap tinggi tanaman

Kata Kunci: Tanah Regosol Pasir Pantai, Biochar Tempurung Kelapa, Pupuk Kandang Sapi, Selada

# THE EFFECT OF BIOCHAR COCONUT SHELL AND COW MANURE TO NPK AVAILABLE BEACH SAND REGOSOL AND LETTUCE PLANT GROWTH (*LACTUCA SATIVA* L.)

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## ABSTRACT

Beach sand was a type of soil with low soil productivity. The addition of coconut shell biochar and cow manured into the soil can increase the availability of nutrients. The purpose of the study was to find out the effect of the administration of coconut shell biochar and cow manure on the chemical properties of soil and lettuce growth in the land of Regosol sand beach. The research was carried out in the greenhouse of the Faculty of Agriculture UPN "Veteran" Yogyakarta and the manufacture of biochar was carried out in Potorono Village, Banguntapan, Bantul, Yogyakarta. The research method wwitas carried out with Completely Randomized Design (CRD) 2 factors, namely the dose of coconut shell biochar and cow manure consisting of 4 level namely 0, 10, 15, 20 tons/ha. The observed parameters were, plant height, number of leaves, wet weight of plants, pH, NPK available and Cation Exchange Capacity (CEC). To find out the effect of the treatment used Sidik Ragam, a test the difference between the average treatment used Duncan Multiple Range Test (DMRT) with a real level of 5%. The results showed that the provision of coconut shell biochar and cow manure had a significant effect on increasing the available N content from 1.00 ppm to 49.89 ppm and available P in the soil from 2.85 ppm to 52.67 ppm. The combination of coconut shell biochar treatment and cow manure with a dose of B1P1 had an effect on increasing pH $H_2O$, dosage of B3P3 against KPK, B0P2 against available N, B1P2 against available P and B3P3 for tall plants.

Keywords: Land Regosol Sand Beach, Biochar Coconut Shell, Cow Manure, Lettuce