

**PENGARUH PEMBERIAN *BIOCHAR* SEKAM TERHADAP  
SIFAT FISIKA TANAH DAN PRODUKSI PADI PADA SAWAH  
INTENSIF TRADISIONAL**

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# PENGARUH PEMBERIAN *BIOCHAR* SEKAM TERHADAP SIFAT FISIKA TANAH DAN PRODUKSI PADI PADA SAWAH INTENSIF TRADISIONAL

## ABSTRAK

Penelitian tentang sifat fisika tanah sawah intensif tradisional akibat pemberian takaran *biochar* sekam padi telah dilakukan dari Juni 2015 sampai Januari 2016 di Jorong Air Hangat Nagari Tanjung Betung Kecamatan Rao Selatan Kabupaten Pasaman Sumatera Barat. Tujuan dari penelitian yaitu untuk mengetahui pengaruh pemberian *biochar* sekam terhadap sifat fisika tanah dan produksi padi pada sawah intensif tradisional. Analisis tanah dan tanaman dilakukan di Laboratorium Fisika Tanah Jurusan Ilmu Tanah Fakultas Pertanian Universitas Andalas dan *laboratory Faculty of Life and Environmental sciences Prefectural University of Hiroshima, Shobara*. Penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 6 perlakuan dan 3 ulangan. Takaran perlakuan *biochar* yaitu A= 0 ton/ha, B= 5 ton/ha, C=10 ton/ha, D= 15 ton/ha, E= 20 ton/ha, F= 25 ton/ha. Sampel tanah yang diambil yaitu pada kedalaman 0-20 cm. Data analisis tanah dan tanaman di uji secara statistik berdasarkan uji F pada taraf 5 % dan dilanjutkan dengan uji BNJ. Hasil penelitian menunjukkan pemberian *biochar* sekam padi mampu memperbaiki sifat fisika pada tanah sawah intensif tradisional yaitu pada takaran 20 ton/ha. Dengan nilai bahan organik 2,23%; berat volume 1,16 g/cm<sup>3</sup>; total ruang pori 55,47 %; kadar air 21,39%; permeabilitas 1,57 cm/jam. Sedangkan untuk produksi padi tidak memberikan pengaruh nyata pada setiap perlakuan, tetapi cenderung terjadi peningkatan produksi pada setiap penambahan takaran *biochar*.

**Kata Kunci:** *Biochar* sekam padi, sawah tradisional, Pasaman.

# **EFFECT OF RICE HUSK BIOCHAR TO SOIL PHYSICAL PROPERTIES AND RICE PRODUCTION IN TRADITIONAL INTENSIVE PADDY FIELD**

## **ABSTRACT**

A research about soil physical properties of traditional intensive paddy field affected by rice husk biochar was conducted from June 2015 to January 2016 in Jorong Air Hangat Nagari Tanjung Betung Kecamatan Rao Selatan Pasaman Regency, West Sumatera. This study was aimed to find out the effect of rice husk biochar to soil physical properties and rice production at traditional intensive paddy field. Soil and plant analyses was conducted in Soil Laboratory, Faculty of Agriculture Andalas University, and Laboratory at Faculty of Life and Environmental Sciences Prefectural University of Hiroshima, Shobara. This research used Completely Randomized Design with 6 treatments and 3 replications. Biochar dosages as the treatment were A= 0 ton/ha, B= 5 ton/ha, C= 10 ton/ha, D= 15 ton/ha, E= 20 ton/ha. Soil samples were taken in 0-20 cm soil depth. Soil and plant sample were analyzed statistically based on F test at 5% level of significance and continued with HSD (Honestly Significant Difference) test if the  $F_{\text{calc}} > F_{\text{table}}$ . The result showed that rice husk biochar could improve soil physical properties at traditional intensive paddy field given 20 ton/ha rice husk biochar. Soil organic matter content was 2.23%; bulk density 1.16 g/cm<sup>3</sup>; porosity 55.47%; water content 21.39%; permeability 1.57 cm/h. Meanwhile, rice production was not affected by biochar in each dosage statistically, but rice production tended to increase by increasing biochar dosage.

Keywords: Pasaman regency, rice husk biochar, traditional paddy field.

