

**THE ALTERATION OF COASTAL SANDY SOIL AND GRUMUSOLS
SOIL PORES DISTRIBUTION BY GIVING BIOCHAR MIXTURE WITH
VARIOUS ORGANIC LAMB FERTILIZERS DOSAGE**

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ABSTRACT

Coastal sand soil and Grumusol are potential soils for cultivation with some technology that can fix its soil condition are needed, especially on its soil physical properties, by giving biochar and organic lamb fertilizers. Biochar are stable carbon as result of organic matter through pyrolysis process of agricultural waste. Organic lamb fertilizers are organic matters that come from animals feces. By adding biochar mixture and organic lamb ferrtilizers, it could become an alternatice solution to fix soil pores distribution. The aim of this research are to determine the best dosage of biochar mixture and various organic lamb fertilizers to improve pores distribution. This research was conducted in Universitas Pembangunan Nasional “Veteran” Yogyakarta, Agriculture Department, Green House. Split Plot Design method was used in this research that consist of main plot are coastal sand soil and grumusols, sub plot are biochar mixture and organic lamb fertilizers treatment that consist of 5 treatment P1(without treament), P2(B15 ton/ha + PK 5ton/ha), P3 (B15 ton/ha + PK 10 ton/ha), P4 (B15 ton/ha + PK 15 ton/ha), P5 (B15 ton/ha + PK 20 ton/ha). 2 months incubation were done after the treatment was given. Parameters that were analyzed are Bulk Density, Particle Density, Soil Pores Characteristic , Soil Porosity, Aggregate Stability, and Soil Texture. ANOVA variance was used to data processing and followed by advance test using DMRT on 5% level in case significant effect was found on the result. The result showed that by giving the biochar mixture and organic lamb fertilizers (B 15 ton/ha + PK 20 ton/ha) are not enought to improve soil physical properties on some parameters, such as Bulk Density, water retention, and aggregate stability, but it gives good result on particle density and soil porosity because interaction on each treatments was found. Therefore on on soil pores distribution, it can boost slow and fast drainage pores by giving biochar and organic lamb fertilizers, but it didn’t gives any significant result on water pores available

Keywords : Biochar, Coastal Sand Soil, Grumusols Soil, Organic Lamb Fertilizers