

PENGARUH PEMBERIAN BOKASHI KOTORAN AYAM DAN GAMAL TERHADAP BEBERAPA SIFAT FISIK ULTISOL DAN HASIL KEDELAI (*Glycine max* (L.) merril)

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ABSTRACT

Ultisol is one of the soil orders in Indonesia that has a wide distribution, ultisol has high potential for the development of dry land agriculture, but in its utilization ultisol has several physical constraints, namely high density, unstable structure, low organic matter, slow permeability, aggregate stability and low water holding capacity. The provision of organic matter in the form of Bokashi chicken manure and gamal is very necessary to improve the physical properties of the soil in order to create good conditions for soil and plant growth. This research was conducted in Simpang Sungai Duren Village, Jambi Luar Kota District, Jambi Province from May 2023 to December 2023. This study used a Randomized Block Design (RAK) consisting of 5 treatments, namely B0 = Without Bokashi chicken manure and gamal, B1 = 15 tons/ha Bokashi chicken manure and gamal, B2 = 20 tons/ha Bokashi chicken manure and gamal, B3 = 25 tons/ha Bokashi chicken manure and gamal and B4 = 30 tons/ha Bokashi chicken manure and gamal. The treatment was repeated 5 times so that there were 25 experimental plots, each plot containing 80 plants with 4 sample plants and the number of sample plants was 100 plants. The variables observed were volume weight, total pore space, organic matter, aggregate stability, aggregate percentage, plant height and plant yield. Data were analyzed using analysis of variance at a confidence level of 5%. The results of the study showed that the provision of Bokashi chicken manure and gamal with different doses affected the volume weight, total pore space, organic matter, plant height and plant yield, but did not affect aggregate stability and aggregate percentage.

Keywords: *Ultisol; Bokashi Chicken Manure and Gamal; Soybeans*

ABSTRAK

Ultisol merupakan salah satu ordo tanah di Indonesia yang mempunyai sebaran luas, ultisol mempunyai potensi yang tinggi untuk pengembangan pertanian lahan kering, namun dalam pemanfaatannya ultisol memiliki beberapa kendala fisik yaitu kepadatan yang tinggi, struktur tidak mantap, bahan organik rendah, permeabilitas lambat,

kemantapan agregat dan daya pegang air rendah. Pemberian bahan organik berupa Bokashi kotoran ayam dan gamal sangat diperlukan untuk memperbaiki sifat fisik tanah agar menciptakan kondisi yang baik bagi tanah dan pertumbuhan tanaman. Penelitian ini dilaksanakan di Desa Simpang Sungai Duren, Kecamatan Jambi Luar Kota, Provinsi Jambi pada bulan Mei 2023 hingga bulan Desember 2023. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) yang terdiri dari 5 perlakuan yaitu B0 = Tanpa Bokashi kotoran ayam dan gamal, B1 = 15 ton/ha Bokashi kotoran ayam dan gamal, B2 = 20 ton/ha Bokashi kotoran ayam dan gamal, B3 = 25 ton/ha Bokashi kotoran ayam dan gamal dan B4 = 30 ton/ha Bokashi kotoran ayam dan gamal. Perlakuan di ulang sebanyak 5 kali sehingga terdapat 25 petak percobaan setiap petaknya terdapat 80 tanaman dengan 4 tanaman sampel dan jumlah tanaman sampel sebanyak 100 tanaman. Variabel yang diamati yaitu berat volume, total ruang pori, bahan organik, kemantapan agregat, persentase agregat, tinggi tanaman dan hasil tanaman. Data di analisis menggunakan sidik ragam pada taraf kepercayaan 5 %. Hasil penelitian memperlihatkan bahwa pemberian Bokashi kotoran ayam dan gamal dengan berbeda dosis berpengaruh terhadap berat volume, total ruang pori, bahan organik, tinggi tanaman dan hasil tanaman, namun tidak berpengaruh terhadap kemantapan agregat dan persentase agregat.

Kata Kunci : *Ultisol; Bokashi Kotoran Ayam dan Gamal; Kedelai*