PENGARUH CAMPURAN KOTORAN SAPI DAN LAMTORO TERHADAP KEMANTAPAN AGREGAT ULTISOL DAN HASIL KEDELAI

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ABSTRAK

Ultisol merupakan jenis tanah yang tergolong tua. Ultisol memiliki keterbatasan sifat fisik, bahan organik rendah, total ruang pori rendah, dan kemantapan agregat rendah.Upaya untuk memperbaiki sifat fisik Ultisol yaitu dengan penambahan kompos. Kompos dapat memperbaiki sifat fisik tanah dengan meningkatkan kandungan bahan organik, total ruang pori dan menurunkan bobot volume. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) dengan 5 perlakuan dan 5 ulangan. Adapun perlakuan yang digunakan dalam penelitian ini yaitu k_0 = tanpa perlakuan (kontrol); k_1 = 5 ton/ha campuran kompos kotoran sapi dan lamtoro; k_2 = 10 ton/ha campuran kompos kotoran sapi dan lamtoro; k_3 = 15 ton/ha campuran kompos kotoran sapi dan lamtoro; k_4 = 20 ton/ha campuran kompos kotoran sapi dan lamtoro. Variabel yang diamati yaitu kandungan bahan organik, bobot volume tanah, total ruang pori, agregat terbentuk, kemantapan agregat, tinggi tanaman dan hasil kedelai. Hasil Penelitian diperoleh pemberian dosis 15 ton/ha campuran kompos kotoran sapi dan lamtoro merupakan perlakuan terbaik untuk meningkatkan kemantapan agregat dan memberikan hasil yang berbeda nyata terhadap pertumbuhan tanaman kedelai serta hasil tanaman kedelai. Pemberian campuran kompos kotoran sapi dan lamtoro 5 ton/ha telah sudah efektif memperbaiki kemantapan agregat Ultisol dan meningkatkan hasil kedelai.

Kata Kunci : Kompos, Kemantapan Agregat, Kedelai

THE EFFECT OF COW MANURE AND LAMTORO MIXTURE ON THE STABILITY OF ULTISOL AGGREGATE AND SOYBEAN RESULTS

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ABSTRACT

Ultisol is a relatively old type of soil. This land has undergone a process of advanced soil formation. Ultisols have limited physical properties, low organic matter, low total pore space, sensitive to erosion, low aggregate stability, easy soil compaction. Efforts to improve the physical properties of Ultisols are by adding compost. Compost can improve soil physical properties by increasing organic matter content, total pore space and reducing unit weight. This study used a randomized block design (RBD) with 5 treatments and 5 replications. The treatment used in this study is k0 = no treatment (control); k1 = 5 tons/ha of a mixture of cow dung and lamtoro compost; k2 = 10 tons/ha of a mixture of cow dung and lamtoro compost; k3 = 15 tons/ha of a mixture of cow dung and lamtoro compost; k4 = 20 tons/ha of a mixture of cow dung and lamtoro compost. The variables observed were organic matter content, soil volume weight, total pore space, aggregate formed, aggregate stability, plant height and soybean yield. The research results obtained that the administration of a dose of 15 tons/ha of a mixture of cow dung and lamtoro compost was the best treatment to increase the stability of the aggregate and provide significantly different results on the growth of soybean plants and soybean plant yields. Application of a mixture of 5 tons/ha of cow dung and lamtoro compost has been effective in improving the stability of Ultisol aggregates and increasing soybean yields.

Keywords : Compost, Aggregate Stability, Soybean