

The Effect of Gamal and Chicken Manure Mixed Compost on C-Organic Content, N-total Ultisol and Yields of Peanut (*Arachis hypogaea* L.)

Veronika Simbolon ^{(1)(*)}, Suryanto ⁽²⁾, dan Zurhalena ⁽²⁾

¹⁾ Alumni Jurusan Agroekoteknologi Fakultas Pertanian Universitas Jambi

²⁾ Dosen Jurusan Agroekoteknologi Fakultas Pertanian Universitas Jambi
Jl. Jambi-Muara Bulian KM. 15, Kampus Mendalo Darat, Jambi 36361, Indonesia

(*)Email: simbolonveronika@gmail.com

ABSTRACT

Ultisols are a type of soil that is widely distributed in Jambi Province and can be used as agricultural land. Ultisols have several constraints, such as poor content of macro and micro nutrients, high Al saturation, acid soil reaction with a pH of less than 5, as well as low organic matter and cation exchange capacity (CEC). To overcome the problem of nutrient content in Ultisol, it can be done by adding mixed compost derived from forage gamal (*Gliricidia sepium*) and chicken manure. The research was conducted from July 2022 to December 2022 in Mendalo Indah Village RT.08, Kec. Jambi Outside the City, Kab. Muaro Jambi, Jambi. The study was carried out using a randomized block design (RBD) with 6 treatments and 4 replications so that there were 24 experimental plots. The treatments given were K0 (without adding compost), K1 (5 tons ha⁻¹ compost mixed with gamal and chicken manure), K2 (10 tons ha⁻¹ compost mixed with gamal and chicken manure), K3 (15 tons ha⁻¹ compost mixture of gamal and chicken manure), K4 (20 tons ha⁻¹ compost mixed with gamal and chicken manure), K5 (25 tons ha⁻¹ compost mixed with gamal and chicken manure). Application of compost mixed with gamal and chicken manure has not been able to have a significant effect on the C-Organic and N-total content of Ultisols, but it has been able to increase the yield of peanut plants at doses of 5 tons ha⁻¹ to 25 tons ha⁻¹ when compared to no treatment. Applying a mixture of gamal and chicken manure compost to Ultisol at a dose of 25 tons ha⁻¹ with a pod yield of 4.04 tons ha⁻¹ is the best dose for peanut crop yields.

Keywords : *Gamal, Chicken manure, C-Organic, N-total, Peanut Yield.*

Pengaruh Pemberian Kompos Campuran Gamal dan Kotoran Ayam Terhadap Kandungan C-Organik, N-total Ultisol dan Hasil Tanaman Kacang Tanah (*Arachis hypogaea* L.)

Veronika Simbolon^{(1)(*)}, Suryanto⁽²⁾, dan Zurhalena⁽²⁾

³⁾ Alumni Jurusan Agroekoteknologi Fakultas Pertanian Universitas Jambi

⁴⁾ Dosen Jurusan Agroekoteknologi Fakultas Pertanian Universitas Jambi
Jl. Jambi-Muara Bulian KM. 15, Kampus Mendalo Darat, Jambi 36361, Indonesia

(*)Email: simbolonveronika@gmail.com

ABSTRAK

Ultisol merupakan salah satu jenis tanah yang sebarannya cukup luas di Provinsi Jambi dan dapat dimanfaatkan sebagai lahan pertanian. Ultisol memiliki beberapa kendala, seperti miskin akan kandungan Unsur hara baik makro maupun mikro, kejenuhan Al tinggi, reaksi tanah yang masam dengan pH kurang dari 5, serta bahan organik dan kapasitas tukar kation (KTK) yang rendah. Untuk mengatasi permasalahan kandungan Unsur hara pada Ultisol dapat dilakukan dengan pemberian komposcampuran yang berasal dari hijauan gamal (*Gliricidia sepium*) dan kotoran ayam. Penelitian dilaksanakan dari bulan Juli 2022 sampai bulan Desember 2022 di Desa Mendalo Indah RT.08, Kec. Jambi Luar Kota, Kab. Muaro Jambi, Jambi. Penelitian dilaksanakan dengan menggunakan Rancangan Acak Kelompok (RAK) dengan 6 perlakuan dan 4 ulangan sehingga terdapat 24 petak percobaan. Adapun Perlakuan yang diberikan yaitu K0 (tanpa pemberian kompos), K1 (5 ton ha⁻¹ kompos campuran gamal dan kotoran ayam), K2 (10 ton ha⁻¹ kompos campuran gamal dan kotoran ayam), K3 (15 ton ha⁻¹ kompos campuran gamal dan kotoran ayam), K4 (20 ton ha⁻¹ kompos campuran gamal dan kotoran ayam), K5 (25 ton ha⁻¹ kompos campuran gamal dan kotoran ayam). Pemberian kompos campuran gamal dan kotoran ayam belum mampu memberikan pengaruh nyata terhadap kandungan C-Organik dan N-total Ultisol, tetapi sudah mampu meningkatkan hasil tanaman kacang tanah pada dosis 5 ton ha⁻¹ sampai 25 ton ha⁻¹ jika dibandingkan dengan tanpa perlakuan. Pemberian kompos campuran gamal dan kotoran ayam pada tanah Ultisol dosis 25 ton ha⁻¹ dengan hasil polong 4,04 ton ha⁻¹ merupakan dosis terbaik untuk hasil tanaman kacang tanah.

Kata kunci: *Gamal, Kotoran ayam, C-Organik, N-total, Hasil Kacang Tanah.*