

PENGARUH BEBERAPA JENIS BAHAN ORGANIK TERHADAP KETERSEDIAAN P ANDOSOL

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ABSTRAK

Andosol memiliki kendala kesuburan tanah yaitu ketersediaan P yang rendah karena terjerap oleh Al dan Fe pada mineral lempung alofan. Tujuan penelitian ini yaitu untuk mengetahui pengaruh pemberian jenis bahan organik terhadap ketersediaan P Andosol. Metode penelitian yang digunakan dalam penelitian yaitu Rancangan Acak Lengkap (RAL) satu faktor yang terdiri dari B0 : kontrol tanpa bahan organik, B1 : pupuk kandang ayam 10 ton/ha, B2 : pupuk kandang ayam 20 ton/ha, B3 : pupuk kandang sapi 10 ton/ha, B4 : pupuk kandang sapi 20 ton/ha, B5 : pupuk kascing 10 ton/ha, B6 : pupuk kascing 20 ton/ha, B7 : kompos daun kipahit 10 ton/ha, B8 : kompos daun paitan 20 ton/ha. Setiap perlakuan dilakukan 3 kali ulangan sehingga diperoleh 27 pot perlakuan percobaan. Analisis parameter bahan organik meliputi P total, C organik, Asam Humat, dan Total Asam Organik. Sedangkan analisis parameter tanah meliputi pH H₂O, pH NaF, C- organik, P total, P tersedia, Retensi P, Al larut, dan Fe larut. Analisis data menggunakan Analisis of Varians (ANOVA) 5% dan Uji Duncan (DMRT) 5% jika terdapat beda nyata. Hasil penelitian menunjukkan bahwa pemberian beberapa macam bahan organik memberikan pengaruh yang berbeda nyata terhadap pH H₂O, pH NaF, Al larut, Fe larut, P total, P tersedia, dan Retensi P. Perlakuan bahan organik berupa kompos daun paitan 10 Ton/ha merupakan perlakuan yang terbaik dalam meningkatkan ketersediaan P pada Andosol.

Kata kunci : Andosol, bahan organik, Fosfor

THE EFFECT OF SOME KIND OF ORGANIC MATTER ON THE AVAILABLE OF PHOSPHATE IN ANDOSOL

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ABSTRACT

Andosol has soil fertility constraints, namely low availability of P because it is adsorbed by Al and Fe elements in allophane clay minerals. The purpose of this study was to determine the effect of the application of various types of organic matter on the availability of P in Andosol soil. The research method used in the study was Completely Randomized Design (CRD) consisting of B0: control without organic matter, B1: 10 tons/ha of chicken manure, B2: 20 tons/ha of chicken manure, B3: 10 tons/ha of cow manure, B4 : cow manure 20 tons/ha, B5: vermicompost 10 tons/ha, B6: vermicompost 20 tons/ha, B7: paitan leaf compost 10 tons/ha, B8: paitan leaf compost 20 tons/ha . Each was repeated 3 times to obtain 27 experimental treatment pots. Parameter analysis of organic matter included total P, C-organic, Humic Acid, and Total Organic Acid. While the soil analysis parameters include pH H₂O, pH NaF, C-organic, total P, available P, P retention, soluble Al, and soluble Fe. Data analysis used Analysis of Variance (ANOVA) 5% and Duncan's Test (DMRT) 5% if there was a significant difference. The results showed that the presentation of several kinds of organic matter gave significantly different organic effects on pH H₂O, pH NaF, soluble Al, soluble Fe, total P, available P, and P retention. Treatment of organic matter in the form of 10 tons/ha paitan leaf compost is the best treatment in increasing the availability of P Andosol.

Keywords : Andosol, Organic Matter, Phospor