KOMBINASI INPUT KAPUR, KOMPOS DAN NPK TERHADAP PERBAIKAN KIMIA INCEPTISOL DAN SERAPAN HARA *Eucalyptus sp.* DI ALAHAN PANJANG

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KOMBINASI INPUT KAPUR, KOMPOS DAN NPK TERHADAP PERBAIKAN KIMIA INCEPTISOL DAN SERAPAN HARA SERTA PERTUMBUHAN TANAMAN *Eucalyptus sp.* DI ALAHAN PANJANG

Skripsi S1 oleh Ummul Ayuni, pembimbing: 1. Syafrimen Yasin 2. Darmawan

ABSTRAK

Inceptisol merupakan tanah yang memiliki permasalahan pada kesuburan tanahnya. Pada umumnya, reaksi tanah tergolong masam dan kandungan Al-dd tinggi mengakibatkan ketersediaan unsur hara seperti unsur P menjadi rendah. Upaya dalam meningkatkan kesuburan Inceptisol dapat dilakukan dengan pengapuran dan pemberian input bahan organik. Selain itu, pemberian pupuk buatan terhadap tanah dapat menambah ketersediaan unsur hara untuk pertumbuhan dan perkembangan tanaman. Penelitian ini telah dilaksanakan pada bulan Juli sampai Desember 2015 di daerah Batu Bagirik Kecamatan Lembah Gumanti. Dilanjutkan dengan analisis tanah dan tanaman di Laboratorium Kimia Tanah, Fakultas Pertanian, Universitas Andalas Padang. Penelitian ini dilakukan dengan menggunakan rancangan acak lengkap (RAL) yang terdiri atas 9 perlakuan dan 3 ulangan. Hasil penelitian menunjukkan bahwa sifat kimia tanah di daerah batu bagirik tergolong tanah bereaksi masam (pH=5,30), % C-Organik tergolong pada kriteria sangat tinggi, P-tersedia tergolong pada kriteria sedang, % N-total tergolong pada kriteria sedang, basa-basa yang dapat dipertukarkan tergolong pada kriteria rendah dan KTK tergolong rendah dengan kandungan Al-dd mencapai 1,97 me/100g. Penggunaan kapur dan kompos telah dapat memperbaiki kimia Inceptisol dimana pH meningkat sebesar 0,62-0,92 dengan kandungan Al-dd sudah tidak terukur dan peningkatan P-tersedia sebesar 7,72-8,95 ppm. C-Organik meningkat sebesar 0,7-2,66% dan N-total meningkat sebesar 0,02-0,03% dengan C/N tergolong sedang. Nilai KTK tanah meningkat sebesar 5,66-11,71 cmol/kg tanah. Hasil terhadap pengamatan tanaman diperoleh adanya pengaruh nyata pemberian kapur dan kompos terhadap tinggi tanaman, bobot kering tanaman, serta serapan N, P dan K tanaman *Eucalyptus sp.* Berdasarkan hasil penelitian, dapat disimpulkan bahwa pemberian kapur, bahan organik dan pupuk NPK berpengaruh dalam meningkatkan kesuburan tanah Inceptisol dan pertumbuhan serta perkembangan *Eucalyptus sp.* dimana perlakuan kombinasi 20 g kapur/batang + 37,5 g kompos /batang + 1,5 rekomendasi pupuk NPK merupakan perlakuan terbaik.

Kata kunci: Kesuburan Tanah, Kimia Inceptisol, *Eucalyptus sp.*, Alahan Panjang

Skripsi ini telah dipertahankan didepan sidang penguji dan dinyatakan lulus tanggal 29 Juli 2016.

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COMBINATION OF LIME, COMPOST AND NPK INPUT ON CHEMICAL PROPERTIES OF INCEPTISOL AND NUTRIENT UPTAKE AS WELL AS GROWTH OF *Eucalyptus sp.* IN ALAHAN PANJANG

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ABSTRACT

Inceptisol is one of soil types having problem on the fertility. In general, the soil reaction is acidic and it has high content of Al-exchangeable resulted in the lower of nutrient availability such as P. Efforts to increase the soil fertility of Inceptisol can be done by liming and applying organic matter. In addition, application of synthetic fertilizer to soils could increase the availability of nutrients for plant growth and development. This study was carried out in Batu Bagirik subdistrict Lembah Gumanti from July to December 2015. Soil and plant analysis were conducted in the Laboratory of Soil Chemistry, Faculty of Agriculture, Andalas University Padang. This study was in form of field experiment, using completely randomized design (CRD) for allocating 9 treatments and 3 replications. The results showed that the chemical properties of the soil in the area was classified as acidic (pH = 5.30), very high organic-C content, medium P-available, medium total-N, low CEC and Al-exchangeable. Application of lime and compost was able to increase chemical characteristics of Inceptisol. The pH value increased by 0.62 - 0.92, Al-exch was unmeasurable, P-available increased by 7.72 - 8.95 ppm, organic-C increased by 0.7 - 2.66%, and total-N increased by 0.02 - 0.03% with the C/N ratio was medium. The CEC value of the soil increased by 5.66 - 11.71 cmol/kg soil. The results of this study showed that there was significant effect of lime and compost on plant height, plant dry weight, and the nutrient (N, P and K) uptake by *Eucalyptus sp.* Based on the results, it could be concluded that the application of lime, organic matter, and NPK fertilizer improved fertility of Inceptisol, growth and development of *Eucalyptus sp.* Among the treatments, application of 20 g lime/seedling + 37.5 g compost/seedling + 1.5 recommendation of NPK was the best treatment in improving soil chemical properties of inceptisol.

Keywords: Soil Fertility, Soil Chemicals Properties, Inceptisol, *Eucalyptus sp.*, Alahan Panjang

This thesis has been defended and passed the examination on July 29 th 2016.

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