

KAJIAN BEBERAPA SIFAT FISIKA DAN KIMIA TANAH PADA TOPOSEKUEN LAHAN REPLANTING KELAPA SAWIT

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ABSTRACT

Toposequence is a change in soil properties that occurs due to differences in topography. Diverse topographic conditions cause variations in the soil properties of each slope position. Replanting activities cause soil compaction in the lower layers due to the use of heavy equipment which has an impact on decreasing porosity and water infiltration. Loss of vegetation in the replanting process increases the risk of soil erosion and increases soil acidity (decreased pH). This activity can also cause a decrease in organic matter, and Al^{3+} toxicity increases after replanting. This research was conducted in Kemang Manis Village, Muara Papalik District, West Tanjung Jabung Barat. This study used the Systematic Grid Survey Method. The research location was on a replanting land area of 648,789 ha with an oil palm plant age of 1-5 years. Sampling was carried out using the Systematic method which represents the Homogeneous Land Unit and is built based on a soil type map, namely Ultisol with slope classes of 8-15%, 15-30% and 30-45%. The results of the study have varied soil textures, namely sandy clay loam, sandy loam, loamy sand, dusty clay sand, and sandy clay. The steeper the slope, the higher the soil volume weight, while the total soil pore space, soil water content is lower and the C-organic content is lower, while the pH value of the soil on various slopes varies and the Al-dd content tends to be higher on steep slopes. The percentage of the relationship between slope and several physical and chemical properties of the soil at a depth of 0-30 cm and 30-60 cm, namely, Volume weight 70% and 60%, Total pore space 70% and 40%, Water content 70% and 60%, C-organic 50% and 60%, pH 8% and 13% and Al-dd 1% and 10%.

Keywords: *Toposequence, Replanting, physical and chemical properties of the soil.*

ABSTRAK

Toposekuen merupakan perubahan sifat tanah yang terjadi akibat perbedaan topografi. Kondisi topografi yang beragam menyebabkan variasi didalam sifat tanah masing-masing posisi lereng. Aktivitas replanting menyebabkan, pemadatan tanah pada lapisan bawah akibat penggunaan alat berat yang berdampak pada penurunan porositas dan infiltrasi air. Hilangnya vegetasi pada proses replanting meningkatkan risiko erosi tanah dan meningkatkan keasaman tanah (penurunan pH). Aktivitas ini juga dapat menyebabkan penurunan bahan organik, dan toksisitas Al^{3+} meningkat pada pasca replanting. Penelitian ini dilaksanakan didesa Kemang Manis Kecamatan Muara Papalik Kabupaten Tanjung Jabung Barat. Penelitian ini menggunakan Metode Survei Grid Sistematis. Lokasi penelitian pada lahan replanting seluas 648,789 ha dengan umur tanaman kelapa sawit 1-5 tahun. Pengambilan sampel dilakukan dengan metode Sistematis yang mewakili Satuan Lahan Homogen dan dibangun berdasarkan peta jenis tanah yaitu Ultisol kelas kelerengan 8-15%, 15-30% dan 30-45%. Hasil penelitian memiliki tekstur tanah bervariasi yaitu lempung liat berpasir, lempung berpasir, pasir berlempung, pasir liat berdebu, dan liat berpasir. Semakin curam lereng bobot volume tanah semakin tinggi, sedangkan total ruang pori tanah, kadar air tanah semakin rendah dan kandungan C-organik semakin rendah, sedangkan nilai pH Tanah pada berbagai kelerengan bervariasi dan kadar Al-dd cenderung lebih tinggi pada lereng curam. Persentase hubungan kelerengan dengan beberapa sifat fisika dan kimia tanah pada kedalaman 0-30 cm dan 30-60 cm yaitu, Berat volume 70% dan 60%, Total ruang pori 70% dan 40%, Kadar Air 70% dan 60%, C-organik 50% dan 60%, pH 8% dan 13% dan Al-dd 1% dan 10%.

Kata Kunci: *Toposekuen, Replanting, sifat fisika dan kimia tanah.*