EVALUASI STATUS KESUBURAN TANAH LATOSOL PADA PENGGUNAAN LAHAN PERTANIAN YANG BERBEDA DI KALURAHAN NGLANGGERAN, KAPANEWON PATUK, KABUPATEN GUNUNGKIDUL

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ABSTRAK

Kalurahan Nglanggeran, Kapanewon Patuk, Kabupaten Gunungkidul merupakan salah satu wilayah yang memiliki penggunaan lahan pertanian berbeda-beda seperti tegalan, kebun, dan sawah yang mengalami penurunan produksi, diduga disebabkan oleh tingkat kesuburan tanah. Tingkat kesuburan tanah yang rendah menyebabkan penurunan produktivitas tanaman. Tujuan dari penelitian ini adalah mengidentifikasi sifat kimia, status kesuburan, dan faktor pembatas status kesuburan tanah latosol pada penggunaan lahan pertanian yang berbeda. Metode penelitian menggunakan survei dan penentuan sampel menggunakan *purposive sampling*. Sampel diambil pada penggunaan lahan pertanian yang berbeda yaitu tegalan, kebun, dan sawah dengan kemiringan datar, landai, dan agak curam sehingga menghasilkan sebanyak 9 titik sampel. Penilaian status kesuburan tanah menggunakan Petunjuk Teknis Evaluasi Kesuburan Tanah (PPT, 1995). Hasil analisis sifat kimia tanah pada penggunaan lahan tegalan menunjukkan bahwa nilai pH H_2O 5,15-5,34 (masam), KPK tanah 29,70-37,87 cmol(+)/kg (tinggi), KB tanah 8,03-15,86 % (sangat rendah), P_2O_5 3,90-18,25 mg/100g (sangat rendah hingga rendah), K_2O 80,4-195,9 mg/100g (sangat tinggi), dan C-Organik 2,15-2,75 % (sedang), pada penggunaan lahan kebun menunjukkan bahwa nilai pH H_2O 5,83-6,25 (agak masam), KPK tanah 22,67-36,28 cmol(+)/kg (sedang hingga tinggi), KB tanah 8,03-13,63 % (sangat rendah), P_2O_5 7,14-27,86 mg/100g (sangat rendah hingga sedang), K_2O 112,5-289,3 mg/100g (sangat tinggi), dan C-Organik 0,64-2,41 % (sangat rendah hingga sedang), dan pada penggunaan lahan sawah menunjukkan bahwa nilai pH H_2O 5,43-5,77 (masam hingga agak masam), KPK tanah 24,07-39,02 cmol(+)/kg (sedang hingga tinggi), KB tanah 8,92-18,14 % (sangat rendah), P_2O_5 28,08-32,61 mg/100g (sedang), K_2O 150,3-297,9 mg/100g (sangat tinggi), dan C-Organik 1,5-1,73 % (Rendah), serta tektur tanah termasuk dalam kelas lempung (*clay*) dan geluh lempungan (*clay loam*). Faktor pembatas pada lahan tegalan berupa pH H_2O, KB, P_2O_5, pada laha kebun beruapa pH H_2O, KB, P_2O_5, dan C-Organik, serta pada lahan sawah pH H_2O, KB, dan C-Organik. Status kesuburan tanah latosol pada seluruh pengunan lahan pertanian yang berbeda termasuk kedalam kelas rendah.

Kata Kunci: latosol, kebun, kesuburan tanah, sawah, sifat kimia tanah, tegalan

EVALUATION OF LATOSOL SOIL FERTILITY STATUS OF DIFFERENT AGRICULTURAL LAND USES IN NGLANGGERAN VILLAGE, PATUK SUB-DISTRICT, GUNUNGKIDUL REGENCY

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ABSTRACT

Nglanggeran Village, Patuk Sub-district, Gunungkidul Regency is one of the regions characterized by agricultural land use types including dryland farming, gardens, and rice fields, all situated on latosol soil. A decline in soil fertility can be a major factor affecting soil productivity. The aim of this study is to identify the chemical properties, fertility status, and limiting factors of latosol soil fertility under different types of agricultural land use. The research method used is a survey with purposive sampling for sample determination. Soil samples were collected from three types of agricultural land use including dryland farming, gardens, and rice fields each with flat, gentle, and moderately steep slopes, resulting in a total of 9 sampling points. The soil fertility status was assessed using the Technical Guidelines for Soil Fertility Evaluation (PPT, 1995). The results of the chemical property analysis of soils under dry field use showed that the pH H_2O values ranged from 5,15 to 5,34 (acidic), soil CEC ranged from 29,70 to 37,87 cmol(+)/kg (high), base saturation from 8,03 to 15,86% (very low), P_2O_5 from 3,90 to 18,25 mg/100g (very low to low), K_2O from 80,4 to 195,9 mg/100g (very high), and C-Organic from 2.15 to 2.75% (moderate), under garden land use pH H_2O values ranged from 5,83 to 6,25 (slightly acidic), CEC from 22,67 to 36,28 cmol(+)/kg (moderate to high), base saturation from 8,03 to 13,63% (very low), P_2O_5 from 7,14 to 27,86 mg/100g (very low to moderate), K_2O from 112,5 to 289,3 mg/100g (very high), and C-Organic from 0,64 to 2,41% (very low to moderate), and under rice field land use pH H_2O values ranged from 5,43 to 5,77 (acidic to slightly acidic), CEC from 24,07 to 39,02 cmol(+)/kg (moderate to high), base saturation from 8,92 to 18,14% (very low), P_2O_5 from 28,08 to 32,61 mg/100g (moderate), K_2O from 150,3 to 297,9 mg/100g (very high), and C-Organic from 1,5 to 1,73% (low). The soil texture was classified as clay and clay loam. The limiting factors for dry fields were pH H_2O, base saturation, and P_2O_5, for gardens pH H_2O, base saturation, P_2O_5, and C-Organic, and for rice fields pH H_2O, base saturation, and C-Organic. The fertility status of latosol soils across all different agricultural land uses was categorized as low.

Keywords: latosol, dryland farming, gardens, rice fields, soil chemical properties, soil fertility