

**PERBANDINGAN KADAR HARA HASIL ANALISIS LABORATORIUM
DENGAN PERANGKAT UJI TANAH SAWAH (PUTS) PADA
BERBAGAI JENIS TANAH YANG DISAWAHKAN
DI DAERAH ISTIMEWA YOGYAKARTA**

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ABSTRAK

Perangkat Uji Tanah Sawah (PUTS) merupakan alat uji cepat di lapangan untuk mengetahui kadar unsur hara tanah secara praktis melalui pengukuran pH, Nitrogen (N), Fosfor (P), dan Kalium (K). Penelitian ini bertujuan membandingkan hasil pengukuran kadar hara menggunakan PUTS dengan hasil analisis laboratorium sebagai acuan. Penelitian dilakukan di Kabupaten Bantul, Gunungkidul, dan Sleman dengan pendekatan deskriptif kuantitatif. Sampel tanah diambil secara komposit dari 18 titik sawah pada tiga tahap waktu, yaitu awal tanam, menjelang panen, dan sesudah panen. Hasil analisis laboratorium menunjukkan bahwa pH tanah pada Latosol, Grumusol, dan Regosol berturut-turut berkisar 5,57–6,64 (agak masam–netral), 7,51–8,05 (netral–agak alkalis), dan 6,72–6,90 (netral). Kandungan N-tersedia masing-masing 0,09–0,34%, 0,05–0,26%, dan 0,08–0,30%; P-tersedia 8,43–15,84 ppm, 17,90–23,07 ppm, dan 12,86–23,19 ppm; serta K-tersedia 0,41–0,54 me%, 0,24–0,36 me%, dan 0,42–0,53 me%. Hasil PUTS menunjukkan kecenderungan serupa, dengan pH agak masam–agak basa, N rendah–tinggi, P rendah–tinggi, dan K sedang–tinggi. Uji korelasi Spearman menunjukkan hubungan positif sangat kuat antara hasil PUTS dan laboratorium, dengan koefisien korelasi (r_s) 0,945 (pH), 0,906 (N), 0,904 (P), dan 0,866 (K) ($p < 0,05$). Hasil ini menunjukkan bahwa PUTS belum dapat menggantikan analisis laboratorium, tetapi dapat digunakan sebagai alat uji cepat untuk pendugaan awal kesuburan tanah.

Kata Kunci : PUTS, kesuburan tanah, nitrogen, fosfor, kalium, pH tanah

**COMPARISON OF NUTRIENT LEVELS FROM LABORATORY
ANALYSIS AND PADDY SOILS TEST KIT (PUTS)
ON VARIOUS CULTIVATED SOIL TYPES
IN THE SPECIAL REGION OF YOGYAKARTA**

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ABSTRACT

Paddy Soils Test Kit (PUTS) is a rapid field testing tool for determining soil nutrient levels in a practical manner by measuring pH, nitrogen (N), phosphorus (P), and potassium (K). This study aims to compare the results of nutrient level measurements using PUTS with laboratory analysis results as a reference. The research was conducted in Bantul, Gunungkidul, and Sleman districts using a quantitative descriptive approach. Soil samples were taken compositely from 18 rice field points at three stages, namely at the beginning of planting, before harvest, and after harvest. Laboratory analysis results showed that the soil pH in Latosol, Grumusol, and Regosol ranged from 5.57 to 6.64 (slightly acidic to neutral), 7.51 to 8.05 (neutral to slightly alkaline), and 6.72 to 6.90 (neutral), respectively. The available N content was 0.09–0.34%, 0.05–0.26%, and 0.08–0.30%, respectively; available P was 8.43–15.84 ppm, 17.90–23.07 ppm, and 12.86–23.19 ppm; and available K was 0.41–0.54 me%, 0.24–0.36 me%, and 0.42–0.53 me%. PUTS results showed similar trends, with slightly acidic to slightly alkaline pH, low to high N, low to high P, and moderate to high K. Spearman's correlation test showed a very strong positive relationship between PUTS and laboratory results, with correlation coefficients (r_s) of 0.945 (pH), 0.906 (N), 0.904 (P), and 0.866 (K) ($p < 0.05$). These results indicate that PUTS cannot yet replace laboratory analysis, but it can be used as a rapid test tool for preliminary estimation of soil fertility.

Keywords: PUTS, soil fertility, nitrogen, phosphorus, potassium, soil pH