

ABSTRACT

Soil fertility is an important factor in agricultural productivity. This study aimed to evaluate the status of primary macronutrients (N, P, K) in Desa Ibru, Mestong Subdistrict, Muaro Jambi Regency, which is dominated by Ultisols and Inceptisols. The method used was a grid survey system with a spacing of 350×350 m at a scale of 1:25,000. Based on the overlay of texture, slope, and land use maps, 12 Homogeneous Land Units (SLH) were obtained. Disturbed soil samples were collected at a depth of 0–30 cm and analyzed for pH, organic C, total N, total P, and total K at the PT Nusa Pusaka Kencana Laboratory, Asian Agri. Results showed that most soils were very acidic (pH 3.82–5.83), organic C ranged from low to high (1.08–5.18%), total N was low to medium (0.12–0.29%), total P was generally very low except one high point (52.94 mg/100g), and total K varied from very low to high (4.37–42.50 mg/100g). The best condition was found in oil palm land with 3–8% slope and fine texture. Liming, organic matter addition, and scheduled N and K fertilization are recommended to improve agricultural productivity.

Keywords: primary macronutrients, soil fertility status

ABSTRAK

Status kesuburan tanah menjadi faktor penting dalam produktivitas pertanian. Penelitian ini bertujuan untuk mengevaluasi status unsur hara makro primer (N, P, K) di Desa Ibru, Kecamatan Mestong, Kabupaten Muaro Jambi yang didominasi oleh tanah Ultisol dan Inceptisol. Metode yang digunakan adalah survei dengan sistem grid berjarak 350×350 m dan skala 1:25.000. Berdasarkan overlay peta tekstur, lereng, dan penggunaan lahan diperoleh 12 Satuan Lahan Homogen (SLH). Sampel tanah terganggu diambil pada kedalaman 0–30 cm dan dianalisis untuk parameter pH, C-organik, N-total, P-total, dan K-total di Laboratorium PT Nusa Pusaka Kencana, Asian Agri. Hasil menunjukkan bahwa sebagian besar tanah tergolong sangat masam (pH 3,82–5,83), C-organik berkisar rendah–tinggi (1,08–5,18%), N-total rendah–sedang (0,12–0,29%), P-total umumnya sangat rendah, kecuali satu titik yang tinggi (52,94 mg/100g), dan K-total bervariasi dari sangat rendah hingga tinggi (4,37–42,50 mg/100g). Kondisi terbaik ditemukan pada lahan kelapa sawit dengan kelerengan 3–8% dan tekstur halus. Disarankan pengapuran, penambahan bahan organik, serta pemupukan N dan K terjadwal untuk meningkatkan produktivitas pertanian.