FRAKSIONASI FOSFOR TANAH SAWAH VULKANIS GUNUNG TALANG

SKRIPSI

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PADANG
2023

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Abstrak

Penelitian fraksionasi P berada pada lahan sawah disekitar Gunung Talang Kabupaten Solok yang tersebar di sisi Utara dan Timur yang terdapat di beberapa Kecamatan, diantaranya Kecamatan Gunung Talang dan Kecamatan Lembang Jaya dengan total luas lahan sawah yang diteliti sebesar 4.798 ha. Tanah sawah vulkanis memilki permasalahan dalam fiksasi P. Pemetaan ketersediaan P tanah diperlukan untuk memberi informasi ketersedian P dan sebarannya menjadi indikator kesuburan pada suatu wilayah. Pada penelitian ini dilakukan pengujian metode penginderaan jauh dengan melihat korelasi data hasil pengamatan laboratorium dengan data NDVI (*Normalized Difference Vegetation Index*). Metode penelitian ini menggunakan metode survei dengan sistem grid interval 1000 m X 1000 m sebanyak 152 sampel (0-20 cm dan 20-40 cm). Parameter yang di analisis di Laboratorium yaitu berat volume tanah, pH H_2O, P tersedia, P retensi, P potensial, dan Fraksionasi P (Al-P, Fe-P, P terselubung dan Ca-P). Hasil penelitian menunjukan bahwa tanah sawah vulkanis Gunung Talang memilki nilai P tersedia berkisar antara (6,20 - 29,97 ppm); P retensi (90,97 - 96,31%); P potensial (92,86 - 310,32 ppm); Al-P (9,09 - 33,72 ppm); Fe-P (8,13 - 31,12 ppm); P terselubung (12,79 - 62,01 ppm); Ca-P (10,99 - 45,92 ppm). Didapatkan hasil korelasi sangat rendah antara P tersedia dengan NDVI dengan nilai r = 0,15.

Kata kunci: Fosfor, Fraksionasi P, NDVI (Normalized Difference Vegetation Index)

PHOSPHORUS FRACTIONATION IN VOLCANIC PADDY SOILS OF MOUNT TALANG

Abstract

Research of P fractionation is conducted on rice fields surrounding Mount Talang in Solok Regency, which are distributed from the North and East sides and were located in several districts, including Gunung Talang District and Lembang Jaya District, with a total research area of 4,798 hectares. Volcanic rice fields have problems with phosphorus fixation. Mapping the availability and fractionation of soil phosphorus is necessary to provide information on phosphorus availability and its distribution as an indicator of fertility in a region. This study conducted to test the remote sensing data with observed data and NDVI (Normalized Difference Vegetation Index). Values the research methodology used a survey approach with a grid system of 1000 m X 1000 m, there were 152 soil samples collected from two depths: 0-20 cm and 20-40 cm. Various parameters were analyzed, such us soil bulk density, pH (H_2O), available P, retained P, potential P, and phosphorus fractionation (Al-P, Fe-P, occluded P, and Ca-P). Results showed that available P ranged from 6.20 ppm to 29.97 ppm, P retention from 90.97 % to 96.31 %, P potential were 92.86 ppm to 310.32 ppm, Al-P found between 9.09 ppm to 33.72 ppm, Fe-P found between 8.13 ppm to 31.12 ppm, P occluded found between 12.79 ppm to 62.01 ppm, and Ca-P found between 10.99 ppm to 45.92 ppm. The correlation between available phosphorus (P) and NDVI is very low with a value of r = 0.15.

Keywords: Phosphorus, Phosphorus fractionation, NDVI (Normalized Difference Vegetation Index)