

KAJIAN SIFAT FISIKA DAN CADANGAN HARA ALAMIAH TANAH SAWAH DI KECAMATAN GUNUNG TALANG KABUPATEN SOLOK

Abstrak

Tingkat produksi tanaman padi sangat dipengaruhi oleh lingkungan seperti iklim, kondisi lahan, varietas yang ditanam, populasi tanaman serta tindakan dalam pengolahan lahan. Relief merupakan salah satu kondisi lahan yang berhubungan erat dengan suhu, sehingga mempengaruhi proses pembentukan tanahnya. Hal ini berarti relief akan mempengaruhi sifat fisika tanah, khususnya tanah sawah. Penelitian ini dilaksanakan pada Mei sampai Agustus 2015 di Kecamatan Gunung Talang, Kabupaten Solok. Analisis sifat fisika tanah sawah dilakukan di Laboratorium Fisika Konservasi Tanah, Fakultas Pertanian, Universitas Andalas Padang. Penelitian ini bertujuan untuk menganalisis dan mengkaji sifat fisika tanah sawah berdasarkan perbedaan relief dan mengidentifikasi jenis mineral yang berperan sebagai cadangan hara alamiah dengan metode XRD. Penelitian dilakukan berdasarkan toposequent dengan metode survey semi detail secara metode purposive sampling. Titik pertama pengambilan sampel pada ketinggian 450 m.dpl. dengan interval 150 m antar titik sampel. Hasil penelitian menunjukkan bahwa sawah di setiap titik sampel memiliki tekstur lempung. Bahan organik tanah sawah tergolong rendah - sedang (3,03 - 6,64%). Bobot volume kriteria sedang - tinggi (0,77 - 1,19 g/cm³). Total ruang pori kriteria rendah - sedang (54,13 - 69,92%). Permeabilitas kriteria lambat - agak cepat (0,23 - 10,32 cm/jam). Pori air tersedia tinggi - sangat tinggi (16,96 - 27,63%). Indeks plastisitas rendah - tinggi (2,38 - 20,86%). Cadangan unsur hara alamiah yang dimiliki tanah sawah yaitu jenis mineral primer mudah lapuk seperti feldspar (haloysit penyumbang K dan Na), albit (penyumbang Na) dan anorthit (penyumbang Ca dan Na).

Kata kunci : *Sifat Fisika Tanah, Tanah Sawah, Mineralogi Sawah, Solok*

STUDY ON PHYSICAL PROPERTIES AND NATURAL NUTRIENT RESERVES OF PADDY SOIL IN MOUNT TALANG SOLOK REGENCY

Abstract

Rice Production is influenced by the environment such as climate, landscape, plant population and land management. Topography as a type of landscape will affect temperature, therefore it influences the process of soil formation. This means that topography or relief will affect soil physical properties. A research was conducted to study physical properties as well as nutrient reserves in the District of Mount Talang, Solok regency from May to August 2015. Analysis of soil physical properties was conducted in soil conservation and physical Laboratory, Faculty of Agriculture, Andalas University. This research was aimed to analyze soil physical characteristics of paddy soil at different elevation and to identify the type of soil minerals that act as a natural nutrient reserves using XRD method. The soil was sampled based on elevation with purposive random sampling using survey method. Soil samples were taken at 4 different altitudes (450, 600, 750, 900 m asl) with 150 m interval. The results showed that the soil had loam in texture, low to moderate (3.03 to 6.64%) soil organic matter, medium to high (0.77 to 1.19 g/cm³) soil bulk density and low to moderate (54.13 to 69.92%) total pore. Soil permeability was rather fast (0.23 to 10.32 cm/h), available water pore was high to very high (16.96 to 27.63%) and plasticity was low to high (from 2.38 to 20.86%). Nutrient reserves contained in this paddy soil was classified as a type of easily weathered primary minerals such as feldspar (halloysit contributing K and Na), albite (Na contributor) and anorthit (Ca and Na contributor).

Keyword : Soil Physical Properties, Paddy Soil, Soil Mineralogy, Solok