

THE EFFECT OF TYPES OF PADDY FIELD MANAGEMENT ON THE SOIL PHYSICAL PROPERTIES

Abstract

Tanjung Betung is an agriculture area of Pasaman District that had three paddy field management systems which was traditional, transition, and modern. Soil physical properties can vary due to the difference in soil material, land use intensity, and tillage technique. A research about the effect of several systems of paddy field management on soil physical properties was conducted in Kenagarian Tanjung Betung, Pasaman Regency from May 2014 to May 2015. Soil analysis was done in Soil Laboratory Faculty of Agriculture, Andalas University. This study was aimed to determine the variation of soil physical properties on three paddy field management systems in Jorong Air Hangat Kenagarian Tanjung Betung. The soil type there, according to soil map of Lubuk Sikaping-0716 was Inceptisol (alluvial based on National Soil Classification). In traditional paddy field management, the soil texture was clay loam, sandy clay loam, sandy clay, and sandy clay loam. In transtision management, the soil texture was classified into clay, clay loam, sandy loam, and sandy clay loam. In modern paddy field management the soil texture was loam, sandy clay, and clay loam. All three types of paddy field management had very low-low organic matter content. The permeability of the soil was in between low to very low, and the electrical conductivity was very low except in the upper layer.

Key Word : Management, Paddy Field, Soil Physical Properties

PENGARUH BEBERAPA SISTEM MANAJEMEN LAHAN SAWAH TERHADAP SIFAT FISIKA TANAH

Abstrak

Kenagarian Tanjung Betung merupakan salah satu daerah pertanian yang memiliki tiga sistem manajemen lahan sawah, yaitu tradisional, transisi dan modern di Kabupaten Pasaman. Perbedaan bahan induk tanah, intensitas penggunaan sawah, teknik pengolahan tanah sawah disamping dapat menyebabkan perbedaan sifat fisika tanah. Penelitian tentang pengaruh beberapa sistem manajemen lahan sawah terhadap sifat fisika tanah telah dilaksanakan pada bulan Mei 2014 sampai Mei 2015 di Kenagarian Tanjung Betung Kecamatan Rao Selatan Kabupaten Pasaman. Analisis tanah dilakukan di Laboratorium Fisika Tanah Fakultas Pertanian Universitas Andalas. Penelitian ini bertujuan untuk melihat perbedaan sifat fisika tanah pada ketiga sistem manajemen lahan sawah di Jorong Air Hangat Kenagarian Tanjung Betung jenis tanah daerah penelitian berdasarkan peta tanah Lubuk Sikaping-0716 termasuk alluvial ordo Inceptisols, manajemen tradisional memiliki tekstur : lempung berliat, lempung liat berpasir, liat berpasir, lempung liat berpasir. Tanah sawah dengan manajemen transisi memiliki tekstur liat, lempung berliat, liat berpasir, lempung liat berpasir dan sawah dengan manajemen modern memiliki tekstur lempung, liat berpasir dan lempung berliat. Ketiga manajemen sawah tersebut memiliki bahan organik sangat rendah-rendah, permeabilitas agak lambat - sangat lambat, dan daya hantar listrik yang sangat rendah kecuali lapisan atas.

Kata Kunci : Manajemen, Sawah, Sifat Fisika