

ANALYSIS OF SOIL QUALITY OF RICE FIELD IN THE REJOSARI VILLAGE SEMIN DISTRICT GUNUNGKIDUL REGENCY

By : Etika Mufidatul Ulfah
Supervised by : Partoyo

ABSTRACT

Agricultural land in Rejosari Village is dominated by rice fields consisting of irrigated and rain-fed rice fields. There are differences in the management of irrigated and rain-fed rice fields in Rejosari Village. The management differences can affect the physical, chemical and biological characteristics of the soil and also influence the soil quality. The aim of this research was to determine the characteristics and quality of soil in rice the fields in Rejosari Village Semin District Gunungkidul Regency. The research method used was survey method and soil quality index calculation which refers to Mausbach and Seybold (1998). Soil sampling points were taken using a purposive sampling method based on the land system map resulted from overlaying maps of land use for irrigated and rainfed rice fields as well as maps of slope. The parameters used are root depth, soil porosity, bulk density, aggregate stability, texture, pH, CEC, N-total, N-available, P-available, K-available, and C-organic. The results of the research show that the soil characteristics in rice fields have shallow to deep root depth, bulk density values of 0.9 g/cm³ – 1.25 g/cm³, poor porosity up to porous, aggregate stability is not stable, pH is slightly acidic, high C-organic, P-Available is very low to high, K-Exchangeable is low to high, N-available value is 0.031 ppm – 0.064 ppm, N-Total is high, C-Organic is very low to low and C/N ratio is very low to low. Soil quality index with good criteria is found in flat irrigated rice fields (0.645), sloping irrigated rice fields (0.617), and steep rainfed rice fields (0.707); medium criteria is found in slightly steep irrigated rice fields (0.4405); and low criteria is found in steep irrigated rice fields (0.359), flat rain-fed rice fields (0.389), sloping rain-fed rice fields (0.375), and slightly steep rain-fed rice fields (0.374).

Keywords: Soil Quality, Soil Management, Irrigated Rice Fields, Rainfed Rice Fields