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ABSTRACT

Characteristics and Stocks of Soil Nutrient under Various Land Use Types in a Super Wet Tropical Rain Forest, West Sumatra (Hermansah, N Sendi, Yulnafatmawita, T Masunaga and T Wakatsuki): In order to characterize and stocks of soil nutrient under various land use types in a super wet tropical rain forest in West Sumatra, an investigation of the nutrient characteristics of the several samples of soils under different land use types as cacao plantation (CP), cinnamon plantation (CMP), mixed garden (MG), and primary forest (PF) in Padang, West Sumatra was conducted. The soil nutrient characteristics varied among the different land use types. The range of nutrient characteristics under four land use type were 4.60 – 7.01% and 0.4 – 0.60% for organic carbon and total nitrogen and were 9.80 – 24.59, 0.68 – 2.07 and 0.30 – 0.8 cmol (+) kg⁻¹ for Ca, Mg and K, respectively. The highest content of soil nutrient status was found under MG, while the lowest soil nutrient status found at CP. It indicated that the MG with various vegetation types might contribute in enriching the organic matter in soil. The nutrient content such as TN, exchangeable Ca, Mg and K tended to decrease with soil depth of each land use type. However, the sodium (Na) content in soil tended to increase within the soil depth. These were presumed due to the evaporation of Na at surface soil within the study area was low. These study results showed that spatial and temporal properties of soil were closely related to the land use type and management practices. It was suggested that the nutrient characteristics of soils under various land use types in a super wet tropical rain forest region.

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