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Chemical Characteristics of Soils Based on Toposequence Under Wet Tropical Area Bukit Sarasah Padang

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Abstract : Topography is a factor affecting soil characteristics. Chemical characteristics of a soil is a factor determining the productivity of the land. A research was conducted in Bukit Sarasah Padang, an area receiving > 5000 mm rainfall annually. The purpose of this research was to determine the chemical characteristics of soils at sequence topography in hill-slope of Bukit Sarasah. Soils were sampled at 3 different altitudes in the research area from 315 m – 515 m asl with 100 m interval. At each location, soil samples were taken from two depths (0-20 cm and 30-50 cm) for soil chemical characteristics (pH, CEC, organic-C, N-total, C/N, Ca-, Mg-, K-, Na-, Al-, and H-exchangeable). Based on the data resulted, it was found that there was a tendency of decreasing soil organic matter (SOC) content by increasing location from 315 to 515 m asl as well as from the top 0-20 cm to 30-50 cm soil depth. The same tendency was also found for the CEC, pH, N-total, and C/N ratio of the soil. On the other hand, exchangeable-Al and -H tended to increase by increasing elevation in Bukit Sarasah. There was no significant difference found for the concentration of exchangeable cations among the elevations and between the depths. The soil chemical characteristics on the top 20 cm were generally better than those on 30-50 cm soil depth, however, different elevation did not gave significant difference of the concentration.

Keywords : soil chemical characteristics, soil depths, topo-sequence, wet tropical area
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