

INTISARI

Lereng barat Gunung Sumbing terdapat variasi karakteristik tanah berdasarkan perbedaan topografi dan iklim sebab pada faktor bahan induk, waktu, dan organisme pada berbagai ketinggian tidak berpengaruh signifikan. Penelitian ini bertujuan untuk mengidentifikasi karakteristik morfologi, fisik, dan kimia tanah serta menentukan klasifikasi tanah berdasarkan Sistem Taksonomi Tanah (*Soil Taxonomy*), *World Reference Base (WRB)*/*Food and Agriculture Organization (FAO)* dan Klasifikasi Tanah Nasional (KTN) di lereng barat Gunung Sumbing yang didominasi oleh tanah hasil pelapukan material vulkanik. Penelitian ini dilakukan pada bulan Desember 2024 hingga April 2025 secara *purposive random sampling*. Pengambilan contoh tanah dilakukan berdasarkan horizon tanah dan analisis laboratorium terhadap BV, BJ, porositas, tekstur, pH, N, P, K, KPK, dan C-Organik. Metode analisa data menggunakan grafik dan analisis data indeks kemiripan. Hasil analisis menunjukkan bahwa tanah secara keseluruhan di berbagai ketinggian memiliki tekstur dominan *clay*, *clay loam*, dan *silt loam* serta pada berbagai ketinggian menunjukkan perbedaan yang tidak terlalu signifikan. Sifat kimia pada K tersedia, P tersedia, N total yang cenderung rendah. Berdasarkan hasil klasifikasi tanah menurut USDA bahwa profil A1-D1 digolongkan ke dalam *Typhic Hapludands*, D2 digolongkan ke dalam *Thaptic Hapludands*. Menurut KTN bahwa profil A1, B1, D1 digolongkan ke dalam Andisol Okrik; A2, B2, C1, C2 ke dalam Andisol Umbrik, dan D2 ke dalam Andisol Taptik. Menurut WRB bahwa semua profil digolongkan ke dalam Andosols. Pengetahuan mengenai karakteristik dan klasifikasi tanah sangat penting sebagai dasar pengelolaan lahan yang berkelanjutan di wilayah vulkanik tropis.

Kata Kunci: andisol, karakteristik, klasifikasi

ABSTRACT

The western slope of Mount Sumbing exhibits variations in soil characteristics due to differences in topography and climate, as the factors of parent material, time, and organisms at various elevations do not have a significant influence. This study aims to identify the morphological, physical, and chemical characteristics of the soil and to determine the soil classification based on the Soil Taxonomy System, the World Reference Base (WRB)/Food and Agriculture Organization (FAO), and the National Soil Classification (KTN) on the western slope of Mount Sumbing, which is dominated by soils resulting from the weathering of volcanic material. The study was conducted from December 2024 to April 2025 using purposive random sampling. Soil samples were taken based on soil horizons and analyzed in the laboratory for bulk volume (BV), bulk density (BD), porosity, texture, pH, nitrogen (N), phosphorus (P), potassium (K), cation exchange capacity (CEC), and organic carbon (C-organic). Data analysis methods included graphical analysis and similarity index analysis. The results showed that soils across different elevations predominantly had clay, clay loam, and silt loam textures, with relatively minor variations between elevations. Chemically, the soils were generally low in available K, available P, and total N. According to USDA Soil Taxonomy, profiles A1 to D1 are classified as Typic Hapludands, while D2 is classified as Thaptic Hapludands. According to the National Soil Classification (KTN), profiles A1, B1, and D1 are classified as Andisol Okrik; A2, B2, C1, and C2 as Andisol Umbrik; and D2 as Andisol Taptik. According to the WRB, all profiles are classified as Andosols. Understanding soil characteristics and classification is essential as a foundation for sustainable land management in tropical volcanic regions.

Keywords: andisol, characteristics, classification