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Physicochemical Properties of Soil Samples Collected from Three Different Areas of Haldwani Region of Uttarakhand, India

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Abstract: *The physicochemical properties of soil are essential in determining its suitability for agricultural, environmental, and engineering applications. This study presents a comprehensive physicochemical analysis of soil samples from diverse locations to evaluate key parameters such as texture, pH, electrical conductivity, organic matter content, cation exchange capacity (CEC), and nutrient levels (nitrogen, phosphorus, potassium). In the present study, three soil samples in triplicate are collected from different areas of Nainital district of Uttarakhand State and texture of soil, its pH value. Organic carbon %, Available N, P_2O_5, K_2O, electrical conductivity, CEC and WHC properties were analysed. The results indicate significant variations in soil composition, which influence fertility and overall soil health. Correlations between soil properties and land use patterns were observed, offering insights into sustainable land management practices. The study highlights the importance of regular soil analysis to guide effective soil conservation, crop management, and environmental monitoring efforts.*

Keywords: Soil analysis, physio-chemical properties, Haldwani region