



## RESEARCH PAPER

# Characterization and classification of some soils of Upper Brahmaputra Valley Zone of Assam

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**Abstract :** A study was conducted to characterize and classify the soils of few upland areas of Golaghat, Jorhat, Sivasagar and Charaideo districts belong to the Upper Brahmaputra Valley Zone (UBVZ) of Assam. Representative soil profiles were collected from eight locations covering all the districts. The results showed certain differences in morphological, physical and chemical properties between the soils. The soils were dark yellowish-brown to brownish-yellow in colour and loam to clayey in texture and very strongly acidic to medium acidic in reaction. The bulk density of the soil ranged from 1.20 to 1.61 Mg m<sup>-3</sup>. The soil organic carbon ranged from 0.23 to 1.40 per cent. The Exchange acidity ranged from 1.31 to 3.37 [cmol (p<sup>+</sup>) kg<sup>-1</sup>]. The exchangeable bases, namely Ca<sup>2+</sup>, Mg<sup>2+</sup>, Na<sup>+</sup> and K<sup>+</sup> ranged from 1.57 to 2.70 cmol (p<sup>+</sup>) kg<sup>-1</sup>, 0.75 to 1.74 cmol (p<sup>+</sup>) kg<sup>-1</sup>, 0.05 to 0.24 cmol (p<sup>+</sup>) kg<sup>-1</sup> and 0.10 to 0.23 cmol (p<sup>+</sup>) kg<sup>-1</sup> representing dominance of divalent cations. The CEC was invariably low ranging from 7.20 to 10.40 cmol (p<sup>+</sup>) kg<sup>-1</sup>. All the soils were classified as Typic Dystrudepts at sub group level except two profiles which were classified as Ruptic Alfic Dystrudepts.

**Key Words :** Soil, Characterization, Organic carbon, Exchangeable bases, Bulk density, Dystrudepts

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