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The bimodal area of the soil textural triangle: specific for tropical and subtropical soils.

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The classical relationships developed in soil science assume unimodal behaviour of the hydraulic soil characteristics. However, a simple analysis of USDA texture triangle shows a specific zone of the triangle for which soils with low silt content exhibit bi-modal particle-size distribution behaviour. Such bimodal particle-size distribution implies bimodal hydraulic soil characteristic which is not taken into account in most classical models used for the water-retention and hydraulic conductivity curves. Studies of various soil databases show that soils belonging to this specific bimodal zone are typical of tropical and subtropical areas. The specific weathering conditions related to these climates explain the low silt contents and consequently the presence of bimodal soils in the soil profiles, especially in B Horizons of Alfisols. The concept will be illustrated through an analysis of soils from the Maheshwaram watershed, a subtropical region of south India.