

Land Capability and Land Irrigability Classification of Major Soil Types of Agricultural College Farm, Naira, Andhra Pradesh

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ABSTRACT

Four representative soil pedons located in red, black and associated soils of Agricultural college farm, Naira were studied morphology and horizon wise soil samples were collected and analysed in the laboratory for physical and chemical characteristics. The red and associated soils of upland soils were moderately sloping while black and associated soils were nearly level cultivated low lands. The gravel content of rainfed uplands ranged from 0.8 to 28.1. The soil texture ranged from sandy loam to clay, moderately deep to deep in depth, slight to moderate erosion and good to poor drainage. Low land black soils were subjected for flooding during monsoon season. The soils were low to medium in organic carbon, the CEC values ranged from 10.20 to 34.30 cmol (p+) kg⁻¹ and base saturation was 43.05 to 87.6 percent. Free calcium carbonate (1.2 to 3.8%) was found in lower layers of pedons 2, 3 and 4. The ESP was low and EC was non saline. Red sandy loam soils on rainfed uplands (pedon1) fall under land capability class (LCC) of II with limitations of land form, soil physical properties and fertility; Reddish yellow soils on irrigated middle lands were grouped to LCC- III with wetness, soil physical properties and soil fertility as limitations. The black soils on middle lands and low lands classified to LCC-IV with limitations of wetness, soil physical properties and soil fertility. The land irrigability classes of the pedon-1 was identified as S1, soils of pedon-2 as S2 and soils of pedonss 3 and 4 as S3 with distinct limitations of wetness (w) and soil physical properties (s).

Key words: *Erosion, Land capability classification, Land irrigability classification, Wetness.*