

Evaluation of Productivity Potential and Constraints of Lateritic Sandy Loam Soils of West Bengal

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Abstract Soil is a vital natural resource on which depend the life supporting system of the country and socio-economic status of the people. Due to increasing population at an alarming rate, demands on natural resources are increasing exponentially. Thus, there is a need to know the distribution, potential and constraints of land use (Verma, 2011). Keeping in view the above facts, the present study was carried to evaluate the productivity potentials of soils of West Bengal.

In the present investigation, the data on physical and chemical properties of 3 pedological horizons of West Bengal belonging to the red and laterite soil groups were collected from the reports of ICAR-AICRP on 'Tillage requirements of major Indian soils for different cropping systems' and were used in evaluating the soil productivity indices (PI) following the procedure as given by Riquier *et al.* (1970). The soils of Gopali do not pose the problem of drainage but the soils of Khajra and Kharagpur were poorly drained although these soils are coarse textured. The soluble salt content ranged from 0-2.0 percent in all locations. Little organic matter content up to 1% was present in all the locations. However, mineral reserve was substantial in all the soils. The poor productivity index values of three soils series ranged between 9.4 and 12.7 indicating poor productivity class. The root zone moisture was found to be below the wilting point for about 8 months in a year. The major constraints to crop productivity are coarse textured soils with low water holding capacity and consequently deficiency of soil moisture for crop growth.