ACID SULPHATE SOILS OF ANDAMANS AND THEIR POTENTIAL FOR LOW LAND RICE PRODUCTION

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ABSTRACT

Morphological and physico-chemical characteristics of two acid sulphate soils of South Andaman viz. Bimbliton and Garacharma indicated that the soils are highly acidic (pH 2.6 - 3.8) and saline (EC 2.2 - 21.5 dsm^{-1}), and rich in organic matter (Org.c. 2.0 - 5.8%) with C/N ratio varying from 12.0 to 20.5. Sodium chloride predominates followed by salts of chloride and sulphate of sodium, magnesium, calcium and potassium. Toxic concentrations of Al and Fe have been noticed in both the soils.

Chemical dynamic and response of rice to lime and phosphorus application were studied in both the soils. Chemical and electrochemical kinetics of the two soils varied widely. Moderate increase in pH was observed during submergence in both the soils while electrolyte concentration remained fairly uniform and contained exch. Al above toxic level to rice crop. Lime and P application considerably reduced the level of exch. Al. The growth of rice was poor in untreated soils. Significant response to P-application was observed in both the soils. The yield of rice was low in Bimblitan soil due to high salinity. Hence acid sulphate soils like those of Garacharma can be made productive for low land rice by applying lime and phosphorus while Bimblitan type of soils must be leached with fresh water to reduce salt concentration before adding any amendment.