

Potassium Fractions in Different Rice based Cropping Systems of Bapatla District, Andhra Pradesh

E Vyshnavi, M Latha, P Madhu Vani and D Ramesh

Department of Soil Science and Agricultural Chemistry, Agricultural College, Bapatla

ABSTRACT

An investigation was carried out to study the different fractions of potassium in rice based cropping systems (*viz.*, Rice-Pulse, Rice-Groundnut, Rice-Maize and Rice-Sorghum cropping systems) of Bapatla district. The mean values of water-soluble K, exchangeable K, non-exchangeable K, fixed-K and total K were 29.3, 147.2, 702, 881 mg kg⁻¹ and 16.55 g kg⁻¹ respectively in Rice-Pulse cropping system. The mean values of water-soluble K, exchangeable K, non-exchangeable K, fixed-K and Total K were 16.8, 104.9, 423, 545 mg kg⁻¹ and 8.90 g kg⁻¹ respectively in Rice-Groundnut cropping system. The mean values of water-soluble K, exchangeable K, non-exchangeable K, fixed-K and Total K were 22.6, 129.3, 662, 814 mg kg⁻¹ and 15.95 g kg⁻¹ respectively in Rice-Maize cropping system. The mean values of water-soluble K, exchangeable K, non-exchangeable K, fixed-K and Total K were 29.4, 154.0, 707, 891 mg kg⁻¹ and 17.00 g kg⁻¹ respectively in Rice-Sorghum cropping system. The order of dominance of different fractions of potassium was total K > fixed K > non-exchangeable K > exchangeable K > water soluble K. Different fractions of potassium had a significant and positive relationship among themselves indicating the dynamic equilibrium among themselves.

Key Words: *Cropping systems, Dynamic equilibrium and Potassium fractions*