

PHYSICO-CHEMICAL PROPERTIES OF *VERTISOL* AT DIFFERENT STAGES OF TRANSPLANTED RICE AS INFLUENCED BY LONG TERM APPLICATION OF FERTILIZERS AND MANURE UNDER CHHATTISGARH CONDITION

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Abstract: A field study was carried out during *Kharif* season of 2010-11 at the Research and Instructional Farm of Indira Gandhi Krishi Vishwavidyalaya (IGKV), Raipur. Experiment was conducted to examine the “Physico-chemical properties of *vertisol* at different stages of transplanted rice as influenced by long term application of fertilizers and manure under chhattisgarh condition”. The experiment was carried out in randomized block design with 4 replications having treatments: T₁ (Control without fertilizer), T₂ (100% NPK), T₃ (100% N alone), T₄ (100%NPK+FYM), and T₅ (50%NPK+Green manure). A medium duration high yielding paddy variety “Mahamaya” was taken as crop. The soil pH and EC decreased in T₃ (100% N alone) treatment. However, it remained constant in T₂ (100%NPK), T₄ (100%NPK+FYM), and T₅ (50%NPK+GM). The organic carbon content under treatment T₄(100%NPK+FYM) was found to be significantly higher in all the growth stages when compared with control. The soil moisture was also found higher in under treatment T₅ (50%NPK+GM). The texture of the soil under study was estimated to be sand (20.40%), silt (35.30%) and clay (45.0%), respectively.

Keyword: Long Term, Rice, Different Stage, Physic Chemical Properties

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