Influence of Rice-Zero Tillage Maize System on Productivity and Soil Fertility Status

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ABSTRACT

Field experiments were conducted on sandy clay loam soils at Agricultural college farm of Acharya N.G. Ranga Agricultural University Rajendranagar, Hyderabad, during *kharif* and *rabi* seasons on the evaluation of package to *kharif* rice and zero till sequential maize on the productivity of newly evolved rice-till sequential zero-till maize in southern telangana zone of Andhra Pradesh. A long duration rice variety, higher recommended dose of nitrogen level of 125 % and granular form of urea recorded higher rice yield. The final nutrient status of the soil revealed that among rice varieties Tellahamsa left the soil with higher N, P and K status when compared to BPT-5204 and Early samba. The performance of *rabi* sequence crops under zero tillage were not influenced by duration of rice varieties of *kharif* season. Their performance on the basis of rice equivalent yield and net returns revealed that the new rice-zero tillage maize irrespective of weedicide treatment was superior over existing rice-pulse sequence. However, the sequential zero–till maize irrespective of the weedicide treatment showed lower fertility status as compared to traditional rice-pulse sequence warranting inclusion of third sequence short season legume or green leaf of manuring or organic manures to restore original status and sustainability of the soil health.

Key words : Atrazine, Blackgram, Forms of urea, Greengram, Paraquat and *Rabi* maize,