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Study of productivity, production efficiency, land use efficiency and labour employment in rice based cropping system

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ABSTRACT : Ten cropping sequences *viz.*rice-wheat (T_1), rice-wheat-green gram (T_2), rice-wheat-*Sesbania* (T_3), rice-wheat + mustard (5:1)-black gram (T_4), rice-wheat + mustard (5:1)-cowpea (dual purpose) (T_5), rice-mustard-green gram (T_6), rice-toria-okra (T_7), rice-veg. pea-okra (T_8), rice-maize (cob) + veg. pea (1:2) - cowpea fodder (T_9) and rice-potato-green gram (T_{10}) were arranged in a randomized block design under three replications to evaluate the effect of cropping sequences on production efficiency, productivity, labour employment and land use efficiency on rice (*Oryza sativa* L.)- based cropping system.Experiment was conducted during 2011-12 at Institute of Agricultural Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh (India). Results showed that rice-potato-green gram sequence ensured highest system productivity (52 kg/ha/day) and production efficiency (Rs 412/ha/day), followed by rice-veg. pea-okra sequences. However, rice-veg. pea-okra sequence recorded maximum land use efficiency (98.6%) and rice-*toria*-okra employed maximum labourers (327/ha/year). In general, land use efficiency, production efficiency as well as labour employment were improved by inclusion of summer crops in sequence.

Key Words: Production efficiency, labour employment, rice based cropping sequences.