



## **Effect of Organic Nitrogen Management on Yield and Quality of Produce in Rice–Vegetable Based Cropping System**

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**Abstract:** A field experiment was conducted during 2003-04 and 2004-05 at Research Farm, BHU, Varanasi, U.P. to study the effect of various sources (farm yard manure, vermicompost and poultry manure) and rates of organic manures (100%, 125% and 150% RND) on yield, quality of produce, soil quality and economics of rice-table pea-onion cropping sequence. Poultry manure @ 150% RND gave higher grain ( $57.96\text{q ha}^{-1}$ ) and straw yield ( $91.27\text{q ha}^{-1}$ ) in rice, green pod yield ( $70.72\text{q ha}^{-1}$ ) and straw yield ( $70.03\text{q ha}^{-1}$ ) of table pea and bulb ( $270.84\text{q/ha}$ ) and haulm yield ( $35.13\text{q ha}^{-1}$ ) of onion. On an average, application of poultry manure resulted improved values regarding soil organic carbon, uptake of available NPK and soil biological properties compared to varying doses of vermicompost, FYM and over the control treatment. Physical properties of soil viz. bulk density and water stable aggregates were not affected due to nitrogen management through organic sources. Economic analysis revealed that the highest rice-grain equivalent yield and maximum net profit (Rs.1,30,799  $\text{ha}^{-1}$ ) from rice-table pea-onion sequence were recorded with the application of 150% RND through poultry manure.

**Key Words:** Rice, Table pea, Onion, Cropping sequence, Organic farming, System productivity, Economics

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