## PRODUCTIVITY OF RICE, WHEAT AND N REMOVAL BY RICE AS INFLUENCED BY ORGANIC AND INORGANIC SOURCES OF NITROGEN IN RICE AND THEIR RESIDUAL EFFECT ON SUCCEEDING WHEAT CROP

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**Abstract:** Soil health is towards deteriorating because of continuous use of chemical fertilizers keeping in view experiment were conducted on Integrated nutrient management with different treatment of Prilled Urea, FYM and Green manuring in rice crop and its effect on succeeding wheat crop. The experimental field having pH 7.9 (1:2.5 soil and water), cation exchange capacity 11.1 Cmol ( $p^+$ ) kg<sup>-1</sup> and available N, P and K 165.5, 60 and 90.1 kg ha<sup>-1</sup> respectively. Experiment were laid out in RBD with ten treatment combinations in four replications on rice Variety Pant-10 and Wheat var. K-8804. It is reveled that the addition of green manuring proved superior to FYM in terms of yield and their parameters of rice crop. On an average highest total uptake (128.90 q ha<sup>-1</sup>) was recorded in treatment T<sub>5</sub> (N 60 through PU + N 60 through GM) followed by T<sub>4</sub> (120 kg N ha<sup>-1</sup> through PU) i.e. 123.52 kg ha<sup>-1</sup>.

Keywords: FYM, Grean manure, Productivity, Wheat crop

## REFERENCES

**Davari, M. R., Sharma, S. N. and Mizakhari, M.** (2012). The effect of combination of organic materials and biofertilizers on productivity, grain quality, nutrients uptake and economics in organic farming of wheat. *Journal of Organic System*, 7 (2), 29-35.

Hidayatullah, Ammanullah Jr, Ammanullah Jrn, and Shah, Zahir (2012). Residual effect of organic nitrogen sources applied to rice on the subsequent wheat crop. *International Journal of Agronomy and Plant Production.* 4 (4), 620-631.

Jackson, M.L. (1973). Soil chemical analysis *Prentice Hall India Pvt. Ltd.* New Delhi. 232-235.

Mairan N. R., Dhawan A. S. and Kausadikar H. K. (2014). Studies on nitrogen fractions as influenced by organic and inorganic sources of nutrients under different cropping systems in Vertisol. *An Asian Journal of Soil Science*, 9(1), 67-72.

**Moola Ram, Davari, M. R., and Sharma, S. N.** (2014). Direct residual and cumulative effect of organic manures and biofertilizers on yield NPK, grain quality and economics of wheat (*Triticum aestivum* L.) under organic farming of wheat cropping system. *Journal of Organic System*, 9 (1), 16-30.

Nambiar, K.K.M. and Abrol, I.P. (1989). Longterm fertilizer experiments in India (An overview). Fertilizer News, 34(4), 11-20.

**Olsen, S.R., Cob, V.V., Watanabe, F.S and Dean, L.A.** (1954). Estimation of available phosphorus in soils by extraction with sodium bicarbonate. *U.S. Dept. Agric. Washington, D.C. Circ.* 939.

**Panse, V.G., Sukhatme, P.V.** (1985). Statistical methods for agricultural workers Published by Indian Council of Agricultural Research New Delhi.

**Ramaswami, P.P.** (1999). Recycling of agriculture and agro- industry wastes for sustainable agriculture production. *Journal of Indian society of soil science*, 47. (661-665).

**Prasad, B. and Rokima, J.** (1992). Changes in available nutrient status of calcareous soil as influenced by manures, fertilizers and biofertilizers. J. Indian Soc. Soil Sci., 39(4): 783 - 85.

**Singhundhup, R.B. and Rajput, R.K.** (1990). Nitrogen uptake by rice as influenced by irrigation regimes and nitrogen in sodic soils. *Journal of Indian society of soil science*, 38 (2), 297-303.

**Subbiah, B. and Asija, G. L.** (1956). A rapid procedure for the estimation of available nitrogen in soil. *Current Science*, 25, 259 – 260.

Walkley, A. and Black, C.A. (1934). An examination of the digestion methods for determining soil organic matter and a proposed modification of the chromic acid titration method. *Soil Science*, 34, 29 -38.

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