

## Studies on yield attributes, yield and economics of wet seeded rice under integrated nutrient management practices

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### SUMMARY

To study the influence of integrated nutrient management practices on yield attributes, yield and economics of wet seeded rice, a field investigation was conducted during *Rabi* season (Oct. – Jan.) of 2001 -02 at wetland of Central farm, Agricultural College and Research Institute, TNAU, Killikulam (8° 48' N 77°42' E and 40m AMSL). Total of eleven treatments were planned and executed in randomized block design and replicated thrice. Eight integrated nutrient management practices viz., four organic manure sources with two levels (100 % and 150 % recommended dose) in combination of 100 % organic manures with 100 % NPK(150:50:50 kg ha<sup>-1</sup>) and 150 % organic manures with 75 % NPK level (112.5:37.5:37.5 kg ha<sup>-1</sup>) viz., presowing of *Sesbania* @ 50 kg ha<sup>-1</sup> and *in situ* incorporation at 45 DAS + 150: 50: 50 kg NPK ha<sup>-1</sup>, presowing of *Sesbania* @ 75 kg ha<sup>-1</sup> and *in situ* incorporation at 45 DAS + 112.5:37.5: 37.5 kg NPK ha<sup>-1</sup>, intercropping of *Sesbania* in rice @ 25 kg ha<sup>-1</sup> and *in situ* incorporation at 40 DAS + 150: 50: 50 kg NPK ha<sup>-1</sup>, intercropping of *Sesbania* in rice @ 75 kg and *in situ* incorporation at 40 DAS + 112.5:37.5: 37.5 kg NPK ha<sup>-1</sup>, GLM @ 6.25 t ha<sup>-1</sup> + 150: 50: 50 kg NPK ha<sup>-1</sup>, GLM @ 9.38 t ha<sup>-1</sup> + 112.5:37.5: 37.5 kg NPK ha<sup>-1</sup>, FYM @ 12.5 t ha<sup>-1</sup> + 150: 50: 50 kg NPK ha<sup>-1</sup>, FYM @ 18.75 t ha<sup>-1</sup> + 112.5:37.5: 37.5 kg NPK ha<sup>-1</sup> and two levels of inorganic NPK alone i.e., 150: 50: 50 kg NPK ha<sup>-1</sup>, 112.5:37.5: 37.5 kg NPK ha<sup>-1</sup> and absolute control was adopted. The treatment receiving FYM @ 12.5 t ha<sup>-1</sup> (100 %) + 150: 50: 50 kg NPK ha<sup>-1</sup> (100 %) registered significantly the higher number of productive tillers (526 m<sup>-2</sup>), number of filled grains panicle<sup>-1</sup>(94.30), percentage of filled grains (93.26 %), test weight (22.2 g), grain yield (5538 kg ha<sup>-1</sup>) and straw yield (8693kg ha<sup>-1</sup>) than inorganic fertilizer alone at either level and control. However, it was at par with other integrated nutrient management practices in combination of 100% organic manure (any sources) with 100 % recommended NPK (150:50:50 kg ha<sup>-1</sup>). Integrated nutrient management in combination of FYM @ 12.5 t ha<sup>-1</sup> + 150: 50: 50 Kg NPK ha<sup>-1</sup> recorded highest Gross return (Rs. 42,539), net return (Rs. 26,989) and Benefit –cost ratio (2.74) than any other treatment.

Key words : Wet seeded rice, Integrated nutrient management, Organic sources, Yield attributes, Yield and economics.

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