

INFLUENCE OF INTEGRATED NUTRIENT MANAGEMENT PRACTICES ON YIELD AND NUTRIENT UPTAKE IN RICE UNDER SYSTEM OF RICE INTENSIFICATION

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ABSTRACT

A Field experiment was conducted at Tamil Nadu Agricultural University, Coimbatore, during Rabi season, 2010-11 to evaluate the influence of integrated nutrient management practices on rice under SRI (System of Rice Intensification). The experiment consisted of twelve treatments, viz., T_1 – Absolute control (No manures and fertilizers), T_2 – 100% N through inorganic fertilizers, T_3 – 50% N through farmyard manure (FYM) + 50% N through vermicompost (VC), T_4 – 50% N through FYM + 50% N through well decomposed poultry manure (PM), T_5 – 50% N through well decomposed PM + 50% N through VC, T_6 – 50% inorganic N + 25% N through FYM + 25% N through VC, T_7 – 50% inorganic N + 25% N through FYM + 25% N through well decomposed PM, T_8 – 50% inorganic N + 25% N through well decomposed PM + 25% N through VC, T_9 – 75% inorganic N + 12.5% N through FYM + 12.5% N through VC, T_{10} – 75% inorganic N + 12.5% N through FYM + 12.5% N through well decomposed PM, T_{11} – 75% inorganic N + 12.5% N through well decomposed PM + 12.5% N through VC, T_{12} – Application of green leaf manure at 6.25 t ha^{-1} + 100% N. The experiment was laid out in Randomized Complete Block Design with three replications. The results revealed that application of 75% inorganic N + 12.5% N through FYM + 12.5% N through well decomposed PM produced higher grain yield (5802 kg ha^{-1}) and straw yield (8409 kg ha^{-1}) with higher harvest index (0.41) compared to all other treatments. Higher nutrient uptake was also obtained with the same treatment; however, the values are on par with 100% N through inorganic fertilizers (T_2).

KEYWORDS: Rice, SRI, INM, Grain Yield, Nutrient Uptake, Soil Available Nutrients

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