

Effect of organic and inorganic fertilizers on different growth and yield paramet...

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The use of organic source of nitrogen like (sasbania green manure and farm yard manure) with combination synthetic nitrogen showed significant improved rice yield and yield components (Sarwar et al., 2008; Buri et al., 2012). The fertilization of 20 t ha⁻¹ green manure source with inorganic NPK rate (150-100 -100) showed more tillers number plant⁻¹ and straw weight as compare the individual synthetic NPK source (Ahmad et al., 2001).

Integrated use of green manure (sesbania) at 20 t ha⁻¹ with suggested rate of 75% synthetic fertilizer showed higher yield as compare control (Mehedi et al. (2011). Higher no. of tillers, no. of filled grains spike⁻¹, thousand grains weight and best yield of rice was recorded by fertilization of NPK (120-60-45) kg ha⁻¹ integration with FYM than alone source of NPK and control.

(Satyanarayana et al., 2002). Moreover rice-wheat growth, development, yield components was founded higher by combination of 50% N from synthetic NPK + 50% N from FYM Sharma (2013). Further Ali et al. (2009) observed that significantly more grain and straw yield of rice (5.52 t ha⁻¹ and 6.73 t ha⁻¹ respectively) was recorded in 70% of suggested rate of synthetic fertilizers and three tones poultry manure ha⁻¹ than 70% NPKS alone and the control. Higher rice plant height, no. of tillers, no. of panicles, no. of spikelet's, kernel grain weight, grain yield and biological yield was obtained with application of NPK + GM (120: 90: 60) + 10 t ha⁻¹) kg ha⁻¹ as compared individual fertilization of NPK and control Khan et al. (2007).

Grain yield of rice was significantly increased by integrative use of FYM and poultry manure with NPK respectively compared to control treatment and NPK alone was recorded by Khursheed et al. (2013). Integrated application of chemical nitrogen and some organic manure like FYM or rice-wheat straw at

the level of 7 and 5 t ha⁻¹ respectively increased leaf area index, dry matter production and soil fertility (Zayed et al., 2013). Moreover (Liza et al., 2014) observed that the treatment that received 50% synthetic fertilizer and 50% organic manure (cow dung, poultry manure or compost) produced maximum grain yield (6.87 t ha⁻¹) and straw weight (7.24 ha⁻¹) as compared with alone chemical fertilizer or control treatment.

Further founding by Ranjitha et al. (2013) investigated that significantly higher grain and straw yield of rice was noted with the fertilization of 50% suggested chemical N from urea + 50% from organic manure like compost. Larijani and Hoseini (2012) found that higher no. of tillers, no. of filled grains, no. of panicle m⁻², spike spike⁻¹ and grain yield by the integrated application of organic and inorganic N fertilizer, fertilization of full synthetic recommended rate of N significantly increased the yield first year field experiment and the second year experiment the fertilization of 50% chemical N and 50% n from organic source produced maximum grain yield of rice.

Likewise Saba et al. (2013) found that combination of organic fertilizer, nitrogen and phosphorous improved all other combination including P and N alone in no. of tillers m⁻², no. of panicles m⁻², no. of spikelets panicles⁻¹, 1000-grain weight (g) and grain yield (t ha⁻¹).