# Study on Grain Yield and Economic Profit of Rice Varieties Under Organic and Inorganic Fertilizer Management in Chitwan, Nepal

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Abstract: Application of farm yard manure (FYM) in producing rice crops is common in Nepalese agriculture practices. Therefore, the experiment was conducted at the central research station of Agriculture and Forestry University Rampur, Chitwan Nepal during rainy season (July to December) of 2012 and 2013 to study the performance of rice varieties on yield and economic profit under organic and inorganic fertilizer condition of rainfed upland sandy loam soil. The experiment was laid out in split plot design, main plot as fertilizer treatments (a. 120:60:40 kg NPK ha-1 b. FYM @ 24 t ha-1 c. combination of 60:30:20 kg NPK + 12 t FYM ha<sup>-1</sup> d. control or no fertilizer use) and sub plot as rice varieties (a. Anadi, the religious and scented traditional variety, b. Ramdhan, the soft in eating c. Sabitri the coarse variety) with four replications. The result showed that inorganic fertilizer @ 120:60:40 kg NPK ha<sup>-1</sup> produced significantly highest grain yield of 2.576 t ha<sup>-1</sup> followed by grain yield (2.434 t ha<sup>-1</sup>) produced by combination of 12 t FYM + 60:30:30 kg NPK ha<sup>-1</sup> and grain yield (2.004 t ha<sup>-1</sup>) produced by FYM @ 24 t ha<sup>-1</sup> and the least grain yield (1.063 t ha<sup>-1</sup>) was produced by control (no fertilizer use) in both year. However, grain yield produced by inorganic fertilizer and combination of FYM + inorganic fertilizer were not significantly different from each other. Among the rice varieties, Ramdhan produced the highest grain yield.

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