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Effect of planting geometry and timing and source of nitrogen application on growth attributing characters and yield of rice (*Oryza sativa* L.) under system of rice intensification (SRI)

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ABSTRACT : An experiment was conducted at Agronomy Research Station, Orissa University of Agriculture and Technology, Bhubaneswar during *Kharif* season of 2012 to study the effect of different fertility levels, planting patterns per hill and their interaction on productivity of rice variety 'Lalat' under SRI. Four fertility levels and different planting patterns affected the growth characters as well as yield significantly. F_2 {FYM @ 15 t ha^{-1} + vermicompost 2 t ha^{-1} + neem-cake 250 kg ha^{-1}} gave highest leaf m^{-2}, LAI, dry matter accumulation and CGR with highest yield (8.76 t ha^{-1}). It was found that twice or thrice splitting of N was at par (7.62 and 7.57 t ha^{-1}). Three plants per hill with wider spacing of 30×30 cm gave the highest yield among all planting patterns. Planting more than one plant per hill had not contributed much to growth attributing characters but had given increased yield due to higher plant population per m^{-2} in comparison to one plant per hill. Fertility level (F_4) with half of RDF of nitrogen, recorded the lowest yield (5.87 t ha^{-1}). Among the sub-plots the lowest yield was recorded in P_3 *i.e.*, one seedling per hill at 30×30 cm spacing (6.75 t ha^{-1}).

KEY WORDS : Planting geometry, Growth, Yield, SRI

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