

Evaluation of rice (*Oryza sativa*) varieties/ hybrids under SRI method for growth, nutrient uptake and grain yield

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A field experiment was conducted on clayey vertisol at Directorate of Rice Research farm, Rajendranagar, Hyderabad to study the performance of rice cultivars or hybrids (Vasumathi, Krishnahamsa and KRH-2) under System of Rice Intensification (SRI) with a view to evaluate and harness the potential of different duration rice varieties developed at research stations for their suitability to SRI method. The study was conducted during kharif, 2010. Among the three varieties various growth parameters like plant height (113 cm), dry matter production, and tiller production (340) were highest with the hybrid KRH-2. Maximum filled grains per panicle (146) were recorded by the hybrid KRH-2 and was found to be significantly superior to other two varieties. The hybrid KRH-2 and variety Krishnahamsa recorded higher 1000 grain weight. Significantly higher grain yield was registered by hybrid KRH-2 (6157 kg ha⁻¹) as compared to varieties i.e., Krishnahamsa (4947 kg ha⁻¹) and Vasumathi (3198 kg ha⁻¹) respectively. Straw yields trend was similar to that of grain yield. Maximum harvest index was observed with KRH-2 followed by Krishnahamsa. Nitrogen, phosphorus and potassium uptake was highest with the hybrid KRH-2 followed by the variety Krishnahamsa. Soil available N, P₂O₅ and K₂O after crop harvest was the highest with hybrid KRH-2 indicating the no depletion of the soil available nutrients. SRI method offer to reduce water requirement by about 30 percent of the water requirement when compared to conventional method. As the inputs like seed and water utilization in SRI method are comparatively lower and hybrids can be efficiently grown with SRI to enhance the factor productivity of these inputs. More varieties need to be tested for their suitability or maximizing yield in SRI method.

Influence of rice varieties on growth and yield attributing parameters and yield

Treatment	Plant height (cm)	Total dry matter (kg ha ⁻¹)	No. of tillers at 90 DAT	Panicles m ⁻²	No. of filled grains/ panicle	Grain yield (kg ha ⁻¹)	Straw yield (kg ha ⁻¹)
Varieties							
V1:Vasumathi	108	6791	301	179	108	3198	3914
V2:Krishnahamsa	100	10134	308	234	118	4947	5550
V3:KRH-2	113	12235	340	239	146	6157	6649
S.E.m±	0.51	201.5	1.63	1.73	7.14	92.7	123.4
C.D at 5%	1.99	786.7	6.36	6.75	27.87	362.1	481.7

Biography

Sri Ranjitha has completed her M.Sc at the age of 23 years from ANGRAU and pursuing her PhD in Dept. of Agronomy, College of Agriculture, Rajendranagar, ANGRAU, Hyderabad, Andhra Pradesh.

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