

Category	: International Rice Research Conference
Select Theme	: Genetic improvement
Endorsement email	:
Keyword 1	: Breeding for specific management (water, labor, nutrients, etc)
Keyword 2	:
Keyword 3	:
Title of Entry	: Phenotypic Evaluation of Rice Genotypes for Low Phosphorus Tolerance
Presenting author	: Anantha M S
Presenting author email	: anugenes@gmail.com
Co author 1	: Manoj C A
Co author 2	: Gireesh C
Co author 3	: Muralidhara B
Co author 4	: Sundaram R M
Co author 5	: Ravinder Kale
Co author 6	: Anila M
Co author 7	: L V Subba Rao
Co author 8	: Abdul Fiyaz R
Co author 9	: Jyothi Badri
Co author 10	: Padmavati G
Co author 11	: Aravind J
Co author 12	: Ch Suvarna Rani
Co author 13	: Brajendra P
Co author 14	: Mahender Kumar R
Affiliation presenting author	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 1	: University of Agricultural Sciences - Raichur
Affiliation 2	: ICAR-Indian Institute of Rice Research - Hyderabad

Affiliation 3	: University of Agricultural Sciences - Raichur
Affiliation 4	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 5	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 6	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 7	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 8	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 9	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 10	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 11	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 12	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 13	: ICAR-Indian Institute of Rice Research - Hyderabad
Affiliation 14	: ICAR-Indian Institute of Rice Research - Hyderabad
Select only one type of presentation	: 15 minute oral presentation

Abstract : Rice is one of the most important staple food crops of the world and Phosphorus (P) is one of the essential macronutrients for growth and development of rice. Phosphorus deficiency often exists in soils which severely limit rice growth and production due to fixation in soils. So, P-efficient varieties will play a major role in increasing rice yield. Therefore present study was designed with a set of 28 rice genotypes composed of popular varieties and advanced breeding lines. The experiment was conducted in specialised fields of ICAR-Indian Institute of Rice Research (IIRR) during Kharif 2017 to evaluate and compare tolerance to Low soil Phosphorus. The genotypes were grown in two different 'P' gradient conditions viz, Low Phosphorus condition (Phosphorus was not applied since 18 years and showed low P content of < 3ppm) and Normal soil Phosphorus condition in which Phosphorus was applied @ 60 kg P₂O₅/ha every year. Observations on days to 50% flowering, plant height, number of productive tillers/plant, panicle length, spikelet fertility, grain yield/plant. Grain yield and yield components were significantly influenced by P level and genotype treatments, indicating genotypes responded differently under two P levels. Based on grain yield efficiency index (GYEI), genotypes were classified into efficient, moderately efficient and inefficient groups. Results indicated that, among 28 genotypes, ten genotypes (35.7%) IR-30864, CTH-1, Jaya, Ratnachudi, Rasi, Ratnamudi, FL-478, GNV-1109, GNV-14-96-1 and Gangavati Sona as efficient genotypes for tolerant to low soil 'P'. Remaining 17 genotypes (64.3%) were classified as moderately efficient (8 genotypes) and inefficient (10 genotypes) groups in P use efficiency. The inefficient genotypes were classified as sensitive for P deficiency. In total, the identified genotypes may serve as donors for tolerance to low soil Phosphorus and these could be used as parental genotypes for future rice breeding programmes and genetic studies. Genotypes tolerant to low soil phosphorus could also be used for organic rice production.

[Read Less»](#)

No files found.