

Studies on Correlation and Path Coefficient Analysis in Elite Lines of Rice (*Oryza sativa* L.) for Yield and Yield Related Traits

N R H Sindhura, B N V S R Ravi Kumar, J Dayal Prasad Babu, M R B Raju

Department of Genetics and Plant Breeding, Agricultural college, Bapatla, A.P.

ABSTRACT

The present investigation was carried out during *Kharif*, 2021 at Regional Agricultural Research Station (RARS), Maruteru, with an objective to study the correlation and path coefficient analysis for yield and yield related traits. The experimental material comprised of 88 elite lines including checks namely, Maruteru Samba (MTU 1224), Sravani (MTU 1239) and Maruteru Mahsuri (MTU 1262) which were evaluated in alpha lattice design with two replications. Observations on days to 50 % flowering, plant height (cm), ear bearing tillers per m², panicle length (cm), number of grains per panicle, spikelet fertility (%), test weight (g) and grain yield per plant (g) were recorded. The correlation studies revealed that the traits, plant height, ear bearing tillers per m², panicle length and number of grains per panicle had significant positive genotypic correlation with grain yield per plant. This indicates that, the enhancement of grain yield is possible by giving emphasis on selection of these characters in breeding programmes. Direct positive association towards grain yield was contributed by the traits, ear bearing tillers per m², panicle length, number of grains per panicle, test weight and spikelet fertility indicating the importance of these traits as selection criteria for enhancing the yield potential.

Keywords: *Alpha lattice design, Correlation, Elite lines, Path coefficient analysis and Rice.*