Genetic Variability and Divergence Studies under Organic Fertilizer Management in Rice *(Oryza sativa* L.)

Samir Y Dhurai, D M Reddy, K H P Reddy and B V B Reddy
Department of Genetics and Plant Breeding, S V Agricultural College, Tirupati-517 502

ABSTRACT

Thirty two diverse rice genotypes were evaluated for fourteen yield and quality characters under organic fertilizer management in order to assess the genetic variability, heritability and genetic diversity. The magnitude of difference between PCV and GCV was relatively low for all the traits. Higher PCV, GCV, heritability and genetic advance as per cent of mean were recorded for grain yield per plant, number of effective tillers per plant, plant height and number of grains per panicle which indicated the preponderance of additive gene action for these traits in the organic fertilizer management. Based on genetic diversity studies the thirty two genotypes were grouped into six clusters by using Tocher's method. Cluster II had highest number of genotypes (fourteen). Based on inter-cluster distances, the crosses between PR-106 × Accession no. 11103 (cluster V × cluster VI), Plutikambani × Accession no. 11103 (cluster IV × cluster VI), BPT 5204 × Accession no. 11103 (cluster II × cluster VI), NLR-145 × Accession no. 11103 (cluster II × cluster VI), Triguna x Accession no. 11103 (cluster II × cluster VI) and Velluthachera × PR-106 (cluster III × cluster V could be suggested for the exploitation of transgressive segregants for both yield as well as quality under organic fertilizer management.

Key words : Genetic advance, Heritability, Organic, Rice,Variability.