## Genetic divergence analysis for yield and quality characters in rice genotypes

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**ABSTRACT :** The genetic divergence study was conducted to estimate the nature and magnitude of diversity in 47 rice genotypes including one local check variety Poornima during *rabi* season 2012. The 47 rice genotypes were grouped into six clusters on the basis of Mahalanobis D<sup>2</sup> statistics. Thirteen yield and six quality traits were recorded on the genotypes raised in the Completely Randomized Block Design (CRBD) with three replications. The inter-cluster distances were higher than the intra-cluster distances reflecting wider genetic diversity among the genotypes of different groups. The genotypes under cluster III (3.516) indicating greater genetic divergence among them as it exhibited highest intra-cluster distance followed by cluster IV (3.331), cluster V (3.120), cluster I (2.962), cluster II (2.436) and minimum intra-cluster distance was shown by cluster VI (2.399). The maximum inter-cluster distance was found between cluster I and III (6.431) followed by clusters II and cluster III (6.074), cluster VI and cluster III (3.006) indicating wide genetic diversity and it may be used in rice hybridization programme for improving grain yield.

**Key Words :** Rice (*Oryza sativa* L.) genotypes, genetic divergence analysis, Mahalanobis  $D^2$  statistics, cluster analysis, yield and quality characters, rice hybridization programme.