

# Genetic Variability Studies for Yield, Nutritional and Cooking Quality Characters in Coloured Rice (*Oryza sativa* L.)

**Billa Satish Chandra, T Haritha, B Krishnaveni, M Swapna and M Tushara**  
Department of Genetics and Plant breeding, ANGRAU Agricultural College, Bapatla

## ABSTRACT

In the present study 35 coloured rice genotypes along with three checks were evaluated in randomized complete block design (RBD) for yield, nutritional and cooking quality traits to estimate the extent of genetic variability, heritability (broad sense) and genetic advance as per cent of mean. The analysis of variance revealed significant variability for all the characters studied. Among the traits studied, high phenotypic and genotypic coefficients of variation were recorded for the traits *viz.*, for yield traits like number of filled grains per panicle, grain yield/plant(g) and quality like alkali spreading value and nutritional traits like total phenol content(mg/100g), flavonoid content(mgQE/100g) and anthocyanin content(mg/100g) indicating large amount of variation among the genotypes included in the study. High heritability coupled with high genetic advance as per cent of mean was recorded for plant height (cm), ear bearing tillers per plant, panicle length (cm), test weight (g), number of filled grains per panicle, water uptake, alkali spreading value, protein content (%), Zn content (ppm), Fe content (ppm), total phenol content (mg/100g), antioxidant activity (mgAAE/100g), flavonoid content (mgQE/100g), anthocyanin content (mg/100g) and grain yield per plant (g) indicating that these traits were governed by additive gene effects and hence direct phenotypic selection may be rewarding for improvement of these traits in rice.

**Keywords:** *Genetic advance, GCV, Heritability, PCV and Variability*