Variability, Character Association and Path coefficient Analysis for Physiological traits in Rice (*Oryza Sativa* L.)

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ABSTRACT

Rice is an extensively consumed cereal crop, which serves as a major source of carbohydrate in human diet. The knowledge on the variability, character association and path analysis of physiological traits is of great importance in formulating efficient selection criteria for improvement of yield. Seven rice varieties *viz,* Samba mahsuri, Polasa prabha, Jagtial samba, Nellore mahsuri, Indra, Vijetha and Prabhat were crossed in diallel mating design (without reciprocals). Five physiological characters *viz.,* chlorophyll content, specific leaf weight, harvest index, biological yield and flag leaf nitrogen content along with yield was assessed in 21F. Analysis of variance revealed significant differences among the genotypes for all the traits. Heritability in broad sense was found high for all the characters except chlorophyll content and harvest index. High genetic advance along with high heritability were found for biological yield and Grain yield /plant indicating presence of additive gene action for controlling these traits and selection for the improvement of these characters might be rewarding. Correlation studies indicated that the biological yield and flag leaf Nitrogen content upon which emphasis may given during selection. biological yield and flag leaf nitrogen content showed positive correlation with grain yield along with positive direct effects might be considered in developing breeding strategy for yield improvement.

Key words : Character association,Grain yield, Path coefficient analysis.