

Genetic Variability and Trait Association Studies in F₂ Population of Cross BPT-5204 x JAK-686-1 in Rice (*Oryza sativa* L.)

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ABSTRACT

The present investigation was undertaken to study the variability, heritability, genetic advance and character associations of yield and yield component traits in F₂ population of cross BPT-5204 x JAK-686-1 in rice for the identification of effective selection criteria to improve grain yield. High phenotypic coefficient of variation (PCV) and genotypic coefficient of variation (GCV) coupled with high heritability and genetic advance as per cent of mean were recorded for productive tillers per plant, grains per panicle and grain yield per plant indicating the effectiveness of direct phenotypic selection for improvement of these traits. Positive and significant correlation between grain yield and yield-related traits such as productive tillers per plant, panicle length, and grains per panicle were also observed. As a result, these traits have been identified as valuable selection criteria for enhancing grain yield in the early stages of rice breeding.

Keywords: *Correlation, F₂, Genetic Advance, Heritability and Segregants*