Genetic Analysis for Grain Quality Traits in Rice (*Oryza sativa* L.)

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ABSTRACT

Gene action for grain quality traits in rice were studied in seven parents with early, medium and late duration. Gene action was estimated through Hayman's approach and revealed that both additive and non-additive gene action for traits *viz.,* hulling per cent, head rice recovery, elongation ratio gelatinization temperature, amylose content, protein content . Non-additive gene action (dominant and epistasis) were predominant as compared to additive gene action which is easily transferred through hybridization in crop improvement programme. The positive and negative genes in the parents were distributed unequally for all the traits. Significant values of F for hulling per cent and protein content indicated asymmetrical distribution of dominant and recessive genes in the parents. High heritability in narrow sense was established for head rice recovery, gelatinization temperature, amylose content, iron content and yield per plant. Consequently any selection method adopted could lead to desirable improvement in the above mentioned traits. For varietal improvement Samba mahsuri was the best parent with good cooking quality traits. Vijetha and Indra are the best parents for getting good nutritional quality along with high yields.

Key words : Diallel, Gene action, Genetic components, Rice