

Character Association and Path Analysis of Yield, Yield Components and Grain Quality Characters of Rice Cultivars

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ABSTRACT

Twenty varieties and advanced lines of rice were used to study the association and path analysis and the results revealed that, the genotypic correlations were, in general higher than the phenotypic correlations suggesting that the observed relationships among the characters were due to genetic causes. The traits viz., plant height, total number of tillers per plant, panicle length per plant, test weight, leaf area index at maximum tillering stage, kernel length, kernel breadth, kernel length after cooking, kernel linear elongation ratio, volume expansion ratio and amylose content, were found to possess significant association in desirable direction with grain yield per plant either both at genotypic and phenotypic levels. Further, it was also observed that days to 50% flowering and days to maturity exhibited negative and significant association with grain yield. Path analysis showed the true relationship of plant height, total number of tillers per plant, number of ear bearing tillers per plant, number of grains per panicle, test weight, alkali spreading value and amylose content by establishing significant positive association and positive direct effect on grain yield per plant whereas days to maturity showed true relationship by establishing significant negative association and negative direct effect on grain yield per plant.

Key Words: *Association, Path analysis and Yield parameters.*