

RESEARCH ARTICLE

Estimation of genetic variability and correlation studies in chickpea (*Cicer arietinum* L.) germplasm suited to Eastern plain zone of Uttar Pradesh

■ Avula Ramana Reddy and Gabriel M. Lal

SUMMARY

A set of thirty genotypes of chickpea were evaluated for studying of estimation of genetic variability and correlation studies in elite chickpea (*Cicer arietinum* L.) germplasm suited to eastern plain zone of Uttar Pradesh. The experiment was conducted in a Randomized Block Design with three replications during the *Rabi* season, 2020-21 at Naini Agriculture Institute, Naini. Analysis of variance showed significant differences among genotypes for all 11 characters. High GCV and PCV in chickpea germplasm were observed for No. of effective pods per plant, no. of pods per plant, seed yield per plant, biological yield per plant, no. of secondary branches per plant and seed index. High estimate of heritability coupled with high genetic advance as per cent of mean was recorded for no. of effective pods per plant, no. of pods per plant, biological yield per plant, seed index, seed yield per plant, no. of primary branches per plant, no. of secondary branches per plant. Phenotypic and genotypic correlation co-efficients of 11 characters revealed that seed yield per plant exhibited positive and highly significant correlation at both the levels with days to 50% flowering, plant height, no. of primary branches per plant, no. of secondary branches per plant, no. of pods per plant, no. of effective pods per plant, biological yield per plant and harvest index. Path analysis revealed that direct effect of biological yield per plant, harvest index and no. of pods per plant were of high magnitude. The high positive association of other characters with seed yield per plant (g) was also due to high indirect effect through these characters. This indicated that seed yield was mainly a product of direct and indirect effects of above three characters.

Key Words : *Cicer arietinum*, Correlation, Genotypic, Phenotypic

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