

Combining Ability Analysis of Yield and Yield Attributes in *Kabuli Chickpea (Cicer arietinum L.)*

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ABSTRACT

An investigation with six diverse *kabuli* genotypes and their 15 half diallel F₁ hybrids was taken up during *rabi* 2012-13 to elucidate information on the gene action involved in the inheritance of yield and yield attributes and also to identify promising parents and cross combinations for evolving high yielding large seeded or extra large seeded *kabuli* chickpea. Both additive and non additive gene actions were found to be involved in the genetic control of yield and yield attributes with a predominance of additive gene action for plant height, number of pods per plant, shoot biomass per plant, harvest index, seed yield and 100 seed weight and non additive gene action for number of branches plant. Hence, breeding methods like biparental mating in F₂ or recurrent selection or modified pedigree methods were suggested for exploiting both the types of gene actions for evolving high yielding purelines. Parental genotypes with superior general combining ability effects *viz.*, Vihar, and NBeG 72 for seed yield; KAK 2 and ICCV 95333 for harvest index and Phule G 05107 and MNK 1 for plant height and 100 seed weight and promising crosses *viz.*, KAK 2 and Vihar and MNK 1 x NBeG 72 can be exploited for breeding high yielding large seeded or extra large seeded *kabuli* chickpea.

Key words : Combining ability, Yield.