

Combining ability analysis for quantitative and qualitative traits in *Rabi* season maize (*Zea mays* L.)

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SUMMARY

The experiment was conducted in 2009-10 in complete Randomized Block Design with three replications at Oil seeds Research farm C.S.A. University of Agricultural and Technology, Kanpur. The combining ability analysis from ten parent diallel crosses in maize (*Zea mays* L.) Showed highly significant GCA and SCA effect for important yield and quality trait except number of grain row per cob in SCA effect. This signifies the important of both additive and non-additive gene effects in controlling the inheritance of traits. The GCA /SCA ratio revealed that both additive and non-additive gene effects are present in the experimental material for the trait under study. Parent I-78, I-65, Azad Uttam-1 and Azad Uttam were identified as best general combiner for grain yields per plant. Out of 45 crosses, 20 crosses in F_1 and 17 crosses in F_2 exhibited significant and desirable SCA effects for grain yield per plant. Crosses combination I-65xAU-1 and I-65 x AU were found good specific desirable combiners in both the generation

Key Words : Maize, Combining ability, Grain yield

How to cite this article : Chandel, M.S. and Singh, M.K. (2014). Combining ability analysis for quantitative and qualitative traits in *Rabi* season maize (*Zea mays* L.). *Internat. J. Plant Sci.*, 9 (2): 420-423.

Article chronicle : Received : 25.01.2014; Revised : 05.06.2014; Accepted : 18.06.2014

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