



General and specific combining ability effects for yield and its component in okra [*Abelmoschus esculentus*(L.) Moench]

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Abstract : The present investigation was conducted to magnitude the combining ability in Okra [*Abelmoschus esculentus* (L.) Moench] for identifying desirable parents. The experiment comprised of 36 hybrids obtained by crossing 15 parents (12 lines and 3 tasters) for line x taster analysis. All the hybrids and their parents were sown in a randomized block design with three replications at department of Horticulture, Institute of Agricultural Science, Bundelkhand University, and Jhansi (U.P.). The parents and hybrids were sown in single row and 5 plants were selected randomly for recording observation for all the characters. Combining ability analysis of variances for general and specific combining ability was highly significant for all the characters under study. The study revealed that presents KS-440, KS-448, KS-427 and KS-455 were significantly superior general combiners for yield and its contributing characters. However, the cross combinations KS-448 x KS-404, KS-440 x KS-404, KS-427 x KS-404 and KS-453 x P.K. were found to be significantly superior specific combinations for yield and yield contributing characters. It indicated that both additive as well as non-additive gene actions were responsible for controlling these characters.

Key Words : Combining ability, Okra, Characters, Yield

View Point Article : Khatik, K.R., Chaudhary, R. and Khatik, C.L. (2013). General and specific combining ability effects for yield and its component in okra [*Abelmoschus esculentus*(L.) Moench]. *Internat. J. agric. Sci.*, **9**(1): 80-83.

Article History : Received : 29.05.2012; Revised : 27.08.2012; Accepted : 20.10.2012

INTRODUCTION

Okra [*Abelmoschus esculentus* (L.) Moench] is an important vegetable crop of India and it is believed to have originated in Hindustan . It is belong to Malvacea family. It was earlier known as *Hibiscus esculentus* (L.) Since in Bhindi 5-10 epi –calyx ,5 calyx 5 corolla and a stamina column on are fused together at the base and fall together after anthesis. It has been renamed as [*Abelmoschus esculentus* (L.) Moench] distinguishing it from hibiscus in which calyx is present. Okra is an important fruit vegetable crop of the tropical and sub-tropical regions of the world. It is grown successfully in plain as well as hills. The okra is an often cross pollinated crop where natural cross pollination occurs up to extant of 8.75 to 9.61 per cent. It has been mentioned by Purewal and Randhawa (1947). At edible stage okra is good source of calcium, iron,

vitamins protein, fibres, carbohydrate, minerals *viz.*, magnesium, potassium, sodium copper and sulphur. The success of breeding programme depends mainly upon the promising parents from the gene pool. A clear understanding general and specific combining ability of the trait under consideration will help the breeding in deciding the appropriate breeding methods to improve the genetic makeup as well as to make a dense in productivity.

MATERIALS AND METHODS

The material for the present investigation comprised of 12 line (female) and 3 tester (male) of okra selected on the basis of variability for different characters and maintained by selfing for several generation in the Department of Horticulture, Institute of Agricultural Science, Bundelkhand

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