

**LINE X TESTER ANALYSIS OF COMBINING ABILITY IN OKRA  
(*ABELMOSCHUS ESCULENTUS* (L.) MOENCH)**

**ABSTRACT**

In the present investigation entitled “Line x Tester analysis of combining ability in okra (*Abelmoschus esculentus* (L.) Moench” an attempt was made to study the heterosis, combining ability, nature of gene action and stability in respect of eight characters namely, days to first flowering, days to 50% flowering, number of branches per plant, plant height, tender fruit length, number of seeds per fruit, number of fruits per plant and weight of fruits per plant. In present study, twelve lines of okra namely, BO-2, 35, 447, EC-316053, Vaibhav, VRO-4, IIVR-11, HRB-55, 162, 315, 364 and 410 were selected as parental lines and five lines were crossed with seven testers in line x tester design. The resultant 35 F<sub>1</sub> hybrids were assessed in randomised block design with three replications over a period of three *kharif* and two summer season.

It was observed that the dominance as well as additive components of variation were important for expression of fruit yield. The additive component of variation was found to be involved in most of the characters. An improvement, therefore, in all such characters will be possible and effective by adopting a proper selection method, crossing genetically diverse parents for yield and its component characters with high GCA effects and selecting the desirable transgressive segregants. The resultant segregating population would also provide scope to generate variability to achieve the goal.

Both linear (predictable) and non-linear (unpredictable) components significantly contributed to genotype x environmental interactions for yield and yield contributing components and part of variation in these characters was unpredictable. In present investigation, 35 x 162, 447x 315, Vaibhav x 315 and Vaibhav x 364 were found stable for *kharif* season and BO-2 x 315, 35x 162, 447x 315 and vaibhav x 364 were stable over *kharif* season. Among top five heterotic hybrids, two hybrids Bo-2 x 315 and Vaibhav x 315 were found stable over the environments and could be commercially exploited after intensive testing.

Thus, it could be concluded that in okra, there is great scope for exploitation of heterosis even though limited genetic diversity in germplasm. Further, there is wide scope to develop parental lines and straight varieties by selecting transgressive segregants from elite crosses.

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