



Research Paper

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Heritability, genetic advance and correlation co-efficient in F_1 generation of okra [*Abelmoschus esculentus*(L.) Moench]

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ABSTRACT : The present investigation was conducted to estimate heritability, genetic advance and correlation coefficient in F_1 generation of Okra [*Abelmoschus esculentus* (L.) Moench] for selection and improvement of yield. The experiment comprised of 36 hybrids obtained by crossing 15 parents (12 lines and 3 testers) for line x taster analysis. All the hybrids were sown in a randomized block design with three replications at department of Horticulture, Institute of Agricultural Science, Bundelkhand University, Jhansi (U.P.). The hybrids were sown in single row and 5 plants selected randomly for recording observation for all the characters. High heritability was recorded for all the characters while high genetic advance showed for number of branches per plant, number of fruit per plant and yield per plant under study. The yield per plant was positive significant and strongly correlated with width of fruit than other characters.

KEY WORDS : Heritability, Genetic advanced, Correlation coefficient, Okra, Yield

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Okra or bhindi [*Abelmoschus esculentus* (L.) Moench] is an important vegetable crop of India and it is believed to have originated in Hindustan. It belongs to Malvaceae family having chromosome number $2n=130$. 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 extent of 8.75 to 9.61 per cent (Purewal and Randhawa, 1947). At edible stage okra is good source of calcium, iron, vitamins, protein, fibers, 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 of heritability, genetic advance and correlation coefficient of the traits under consideration

will help the breeding in deciding the appropriate breeding methods to improve the genetic make up as well as to make a dense in productivity.

RESEARCH 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 University, Jhansi (U.P.). All possible 36 F_1 s (hybrids) excluding reciprocals were made among their 15 parents viz., 12 lines as KS-423, KS-440, KS-447, KS-441, KS-453, KS-455, KS-420, BO-2, KS-437, KS-448, KS-439 and KS-427 and 3 testers as Prbhani Kranti (P.K.), KS-410 and KS-404, through line x testers technique (Kamphorne, 1957). The material consisted of 36 F_1 s were sown in Randomized Block Design with three replications. The plant to plant and row to row spacing maintained 45 cm apart. The observation were recorded on five randomly selected plant of