



## Correlation and path analysis studies in okra [*Abelmoschus esculentus* (L.) Moench]

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### ABSTRACT

Correlation and path analysis studies in 75 diverse Okra genotypes revealed that yield per plant exhibited positive and significant correlation with plant height, number of flowering nodes on main stem, number of fruits per plant, average weight of fruit. Path analysis study indicates that number of fruits per plant exhibited maximum direct effect on yield per plant followed by average weight of fruit and internodal length. Thus, all these characters must be taken into consideration while selecting the genotypes for future breeding programme.

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**Key words :** Okra, Correlation, Path analysis

Okra [*Abelmoschus esculentus* (L.) Moench] is one of the most popular vegetable crop grown in tropical and sub-tropical regions of the world. Inter-relational knowledge of yield and yield components helps in identification and adoption of suitable breeding methods. Selection of characters which are highly heritable and positively correlated helps in yield improvement. The correlation coefficient helps to indicate the degree of relationship between characters. When more number of variables are considered the association becomes more complex and less obvious. The path analysis study is useful in such situation. This gives clear picture of the direct as well as indirect effects of various traits on yield. The path analysis on major yield contributing components was carried out to have a clear view of individual traits contribution on yield and is reported in this text. Therefore, the present experiment was carried out to study the correlation and path analysis for seventeen quantitative traits in Okra.

### MATERIALS AND METHODS

The experiment was conducted at research farm of All India Coordinated Vegetable Improvement Project, department of Horticulture, Mahatma Phule Krishi Vidyapeeth, Rahuri with 75 diverse Okra genotypes during

summer 2009. The experiment was laid out in randomized block design with two replications. Seeds were sown at a spacing of 60 cm between rows and 30 cm between the plants. All the recommended cultural practices were followed under irrigated conditions. The observations were recorded on five randomly selected plants per replication for each genotype for seventeen characters. Correlation coefficient was computed by using the formula of Johnson *et al.* (1955) and path coefficient by Dewey and Lu (1959).

### RESULTS AND DISCUSSION

The phenotypic and genotypic correlation coefficients between pair of characters presented in the Table 1 revealed higher estimates of genotypic correlation coefficient than the phenotypic thereby, suggesting an association between various characters. The character yield per plant was positively and significantly correlated with number of fruits per plant at both, genotypic and phenotypic levels. Similar findings were reported by Dahake *et al.* (2007). Yield per plant had also positive and significant correlation with average weight of fruit at both, genotypic and phenotypic levels. Similar results were reported by Jaiprakashnarayan and Mulge (2004). The character days to 50 per cent flowering was found to be