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INTERRELATIONSHIP OF YIELD COMPONENTS IN BHINDI

Swamy Rao and Ramu (1975) concluded that days to flower, plant height and number of pods in *bhindi* are most important yield influencing characters and emphasis must be laid on them to improve the yield. Hence selection based on the above characters has paid very rich dividends in the identification and isolation of superior genotypes in the advanced hybrid generations of diallel crosses (Swamy Rao and Satyavathi, 1977). The Present study was mainly intended to find out which of the two characters namely days to flower and plant height is closely related to number of pods per plant so that greater emphasis will be laid to important components.

Seven dhari, Redwonder, Pusa sawani, Dwarf green, White velvet and A. E. 107 were crossed in 6x6 diallel one way crosses. Parents and hybrids were grown in randomised block design with three replications at the College of Agriculture, Dharwar during kharif 1974—75 with a spacing of 45×30 cm. The data on three important yield components were collected. Correlation, regression and path analysis were estimated following the method of Dewey and Lu (1959).

Days to flower showed negative, low and in significant correlation with number of pods per plant (Table 1). Whereas the correlation between plant height and number of pods per plant is high, positive and highly significant thereby indicating close association between them. With increase in plant height there is corresponding increase in yield due to higher number of pods. Further it is due to more number of total and productive nodes on the main stem as suggested by Thamburaj and Kamalanathan (1973). This is substantiated further by an examination of regression, coefficient of determination and path analysis. The regression between days to flower and number of pods is negative and insignificant, while it was positive and significant in respect of plant height and number of pods. This means with an unit increase in plant height, there, is marked and proportionate improvement in yield through higher number of pods. But there is decreasing trend for the other characters. The contribution of plant height towards total variability was 57.75 per cent higher than days to flower which was only 36.10 per cent (Table 2). Others contributed very less compared to these two characters. The direct effect of plant height is greater than days to flower (Table 3). It was positive in the former and negative in respect of the latter. The indirect effects in both the cases is very negligible.

Table 1
Correlation and regression values

Characters	Days to flower	Plant height	Number of pods
Days to flower	—	+ 0.009	— 0.187 (— 0.290)
Plant height	—	—	+ 0.760 ** (+ 0.286)**

Values within the parenthesis are regression coefficients
** Significant at 1 per cent.

Table 2
Coefficient of determination (r^2)

Variables	Percentage
Plant height	57.75
Days to flower	36.10
Others	6.15

Table 3
Path analysis of yield components

Characters	Direct effect	Indirect X ₁	effect through X ₂	Correlation with yield
Days to flower	X ₁ —0.260	—	+0.073	—0.187
Plant height	X ₂ +0.840	—0.080	—	+0.760

Residual factors 0.7910

The study indicated that greater stress must be laid to plant height and number of pods in *bhindi* breeding programmes for selection in the material under investigation.

സംഗ്രഹം

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REFERENCES

- Dewey, J. R. and Lu, K. H. 1959. A correlation and path coefficient analysis of components of Crested wheat grass seed production. *Agron. J.* **51**, 515—518.
- Swamy Rau, T. and Ramu, P. M. 1975. A study of correlation and regression coefficients of bhindi *Curr. Res.* **4**, 135—317.
- Swamy Rao, T. and Satyavathi, G. P. 1977. Genetic and environmental variability in Okra *Indiau J. Agric. Sci.* **47**, 80—81.
- Thamburaj, S. and Kamalanathan, S. 1973. Studies on growth and productivity in *Abelmoschus esculentus*, L. *Madras Agri. J.* **60** 9—12 : 1659—1666.

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