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Association Studies in Okra (*Abelmoschus esculentus* (L.) Moench)

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Yield being a polygenic character is very much influenced by environment changes, so selection for yield alone is not effective. Correlation provides the knowledge of relative importance of each of the component character helpful for stressing on specific characters. Therefore, it is essential to know the association of different yield components among themselves and with yield.

Ten Okra inbreds namely Punjab Padmini, Padra 18-6, A.E.-91, Kheda-8, Gujarat Bhendi, Parbhani Kranti, No-100, No.168, Red Line and Vaishali Vadhu were crossed in all possible combinations (excluding reciprocal) at College of Agriculture, M.A.U., Parbhani in Summer 1987. All 55 entries comprising of 10 parental lines and 45 hybrids were grown in randomised block design with three replications in Kharif 1987, spaced 45 x 30 cm. Observations were recorded for pod yield and six yield contributing traits. Data obtained were analysed as per procedure of Croxton and Cowden (1964).

The genotypic and phenotypic correlation coefficient presented in Table 1 showed that the plant height (0.321 G, 0.313 P) and number of pods per plant (0.860 G, 0.685 P) had significant and positive correlation with green pod yield per plant. Our present results agreed with those reported by Singh and Singh (1978) and Swamy Rao and Kulkarni (1978). These two traits seem to be important for increasing green pod yield per plant. First fruiting node (-0.333 G, -0.327 P) and days to first flowering (- 0.331 G, -0.324 P) showed desirable negative and significant correlation with green pod yield per plant. Korja and Rastogi (1978) reported correlation between days to flowering and green pod yield per plant.

Plant height was significantly correlated with first fruiting node (0.469 G, 0.459 P), inter-nodel length (0.634 G, 0.574 P) and days to first flowering (0.494 G, 0.452 P).

It is thus concluded that the characters viz., plant height, number of pods per plant and days to first flowering are the important yield contributing characters. Concentration upon these characters with specific objective while considering selection criterion will help to increase green pod yield in Okra.

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TABLE 1

Genotypic (G) and phenotypic (P) correlation co-efficient in F_1 diallel of Okra.

		First fruiting node	*Inter nodel length (cm)*	*Days to first flowering*	*Number of pods/ plant*	*Pod weight (g)*	*Green pod yield plant (g)*
Plant height (cm)	G	0.469**	0.634**	0.595**	0.219	0.216	0.321*
	P	0.459**	0.574**	0.452**	0.174	0.182	0.313*
First fruiting node	G		0.449**	0.878**	–0.269*	0.105	-0.333**
	P		0.401**	0.832**	–0.206	0.093	-0.327*
Inter-nodal	G			0.387**	0.315*	–0.278*	-0.167
Length (cm)	P			0.321*	–0.233	0.219	-0.151
Days to first	G				–0.355**	0.264	-0.331*
flowering	P				–0.288*	0.232	-0.324*
Number of pods/	G					–0.478**	0.860**
Plant						-0.346**	0.685**
Pod weight (g)	G						-0.027
	P						-0.021

*, ** : Significant at 5% and 1% probability level of signficance, respectively.

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