

EVALUATION OF F₁ HYBRIDS OF OKRA (*ABELMOSCHUS ESCULENTUS* [L.] MOENCH)

Okra (*Abelmoschus esculentus* [L.] Moench) is an important vegetable crop grown throughout India for its tender pods. It is a rich source of calcium, iodine and vitamin A. Commercial exploitation of hybrid vigour has not been practised fully in this crop, even though considerable extent of heterosis for yield had been reported (Singh *et al.*, 1972 and Kulkarni and Virupakshappa, 1977). At present hybrid seeds of okra are produced mainly by private seed companies and a few State Agricultural

Universities. But very limited information is available on its merit over the standard varieties. It is therefore imperative to evaluate F₁ hybrids of okra and find out their economic attributes over a standard variety. The present study is an attempt in this direction.

The experimental materials consisted of nine F₁ hybrids viz., H-7, H-8, H-13, H-15, F₁-1A, AROH-1, Vishal, Vijay and Varsha. The variety Pusa Sawani was used as control.

Table 1. Average performance of F₁ hybrids for yield, yield attributes and standard heterosis

Treatment	Source	Yield/ plant (g)	Fruits /plant	Fruit length (cm)	Fruit girth (cm)	Days to 50% flowering	Standard heterosis (%)	
							Yield/plant (g)	Fruits/plant
H-7	TNAU	314.9	16.7	17.2	5.8	58.3	28.7	43.9
H-8	„	239.8	11.7	14.3	5.6	58.3	1.9	0.8
H-13	„	282.1	14.6	14.5	6.1	55.6	15.3	25.8
H-15	„	380.2	16.4	15.4	5.6	55.6	55.4	41.3
F ₁ -1A	Ankur Seeds	573.9	21.3	14.4	6.6	55.6	134.6	83.6
AROH-1	„	278.7	14.5	15.6	6.0	61.6	13.9	25.0
Vishal	Indo American Hybrid Seeds	527.6	20.0	14.7	6.4	55.2	115.6	72.4
Vijay	„	476.3	21.0	14.5	6.2	58.3	94.7	8.1
Varsha	„	469.3	20.0	15.3	6.7	55.7	91.8	72.4
Pusa Sawani	IARI	244.6	11.6	14.7	6.5	52.5		
CD (0.05)		173.9	4.54	NS	NS	NS		

These materials were evaluated for three rainy seasons from 1989 to 1992 accommodating them in a randomised block design with three replications. The spacing given was 60 x 45 cm. The observations were recorded on five randomly selected plants of each treatment on days to 50 per cent flower, fruit length, fruit girth, fruits per plant and fruit yield per plant. Data were subjected to pooled analysis and standard heterosis was worked out on fruit yield and fruits per plant and are presented in the Table 1.

There was significant difference between treatments with respect to fruit yield per plant and fruits per plant. They do not differ significantly with regard to days to 50 per cent

flowering, fruit length and fruit girth. The fruit yield per plant ranged from 239 g to 573.9 g and fruits per plant ranged from 11.7 to 21.3. The control Pusa Sawani recorded a yield of 244.6 g per plant and fruits per plant as 11.6. For fruit yield per plant maximum heterosis of 134.6 per cent was recorded in F₁-1A, closely followed by Vishal, Vijay and Varsha where it was 115.6, 94.7 and 91.8 respectively. F₁ hybrid H-8 showed negative heterosis with respect to fruit yield per plant. In the case of fruit number maximum heterosis was observed in F₁ hybrid F₁-1A, Vijay, Vishal and Varsha where the heterosis over the standard variety amounted to 83.6, 81.0, 72.4 per cent respectively. This is in agreement with the report of Singh (1979) and Thakumar

et al. (1982) who reported maximum heterosis for fruit yield per plant followed by fruits per plant in okra.

The manifestation of heterosis to a considerable extent by a few of the F_1 hybrids obviously points out that there is a need for exploitation of heterosis by the utilization of F_1 seeds for commercial cultivation of okra. At the same

time, it warrants proper screening to select better hybrids since the performance of some of the F_1 hybrids was on par or even inferior to the commercial variety. It is thus concluded from the present study that the F_1 hybrids F_1 -1A, Vishal, Vijay and Varsha are obviously superior F_1 hybrids and better than Pusa Sawani.

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