

TABLE 1  
Results of continue selection experiments in *C. cajan*

Year	Parent	L-handed seedlings		R-handed seedlings		X <sup>2</sup> 1 : 1 deviation	P value
1977-1978	Unknown	93		96		0.047	>0.75
	L-handed	122	(LL)	137	(LR)	0.868	>0.25
1978-1979	R-handed	131	(RL)	165	(RR)	3.9	<0.05
	LL-handed	117	(LLL)	5	(LLR)	102.8	<0.005
	LR-handed	104	(LRL)	114	(LRR)	0.454	>0.50
1979-1980	RL-handed	115	(RLL)	125	(RLR)	0.416	>0.50
	RR-handed	103	(RRL)	185	(RRR)	23.3	<0.005
	LLL-handed	141		151		0.34	>0.50
	RRR-handed	140		161		1.46	>0.10

Key : LL= Left-handed plants produced from left-handed parents.

LR= Left-handed plants produced from right-handed parents.

LLL= Left-handed plants produced in third generation from left-handed parents in the previous two generations etc.

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## TRANSFER OF MALE STERILITY FROM *GOSSYPIMUM HIRSUTUM* TO *G. BARBADENSE*

M. V. THOMBRE

Department of Botany, Mahatma Phule  
Agricultural University, Rahuri 413 722, India.

THOMBRE and Mehetre<sup>1</sup> reported a source of cytoplasmic genetic male sterility in *G. hirsutum* cotton, and it was indicated that the fertility restoration can be controlled by a pair of duplicate dominant genes. The original source used in this case *G. hirsutum* okra male sterile 572/76 was pollinated by pollen from the *G. barbadense* cotton S.B. 289-E to see if sterility can be transferred in *G. barbadense* cotton. The F<sub>1</sub> plants obtained from the cross were all male-sterile but segre-

gated for Okra and normal leaf in 1:1 ratio. The normal-leaved male sterile plants were subsequently back-crossed with S.B. 289-E as a recurrent parent and subsequent back crosses were grown in summer and rabi seasons respectively. After four back crosses the ms *G. barbadense* line was carefully observed for normal pollen/anther formation. In both the seasons the line maintained male sterility.

The original *G. barbadense* line S.B. 289-E showed variability in the length of style, anther number and length of staminal column. The *G. hirsutum* ms has uniform style length. In the ms *G. barbadense* SB 289-E line, the style length is fairly uniform. This is considered advantageous for uniform natural cross pollination to take place.

The development of ms *G. barbadense* from cytoplasmic genic interaction between GA 572/16 and S.B. 289-E indicates that the sterility mechanism in *G. hirsutum* also operates in *G. barbadense* cotton. The nature of fertility restoration in this line is under study.

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