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INHERITANCE OF TESTA TEXTURE IN SESAME (*SESAMUM INDICUM* L.)

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ABSTRACT

Four crosses of sesame were studied for the inheritance of testa texture. The F_1 generation had rough testa while the F_2 generation segregated into 3 : 1 for rough : smooth testa suggesting that this character is controlled by monogenic inheritance, the rough testa being dominant over smooth.

Key words: *Sesamum indicum*, testa texture, inheritance.

In sesame, there exists two types of testa texture: rough and smooth. The rough type is also known as coarse, ribbed or rugose. Testa texture is an economically important character in sesame since the rough testa is associated with low oil content. Hence it is essential to determine the inheritance of this character.

Crosses were made using culture VS 117 (rough testa) as female parent and TMV 3, TMV 4, Co 1 and SVPR 1 (smooth testa) as male parents. The F_1 and F_2 generations were studied during the rainy season of 1992 and winter of 1992–93, respectively. The χ^2 test and test of heterogenity were carried out as per Panse and Sukhatme [1].

The testa texture in the F_1 generation of all the four crosses was rough. The F_2 generation segregated in the ratio of 3 rough : 1 smooth (Table 1). Thus, this character is controlled by a single gene, the rough testa being dominant. These results are in accordance with the earlier report [2].

Table 1. Segregation for seed surface character in sesame in F_2 generation of sesame

Cross	F_1	F_2 segregation		χ^2	P
		rough	smooth		
VS 117 x TMV 3	Rough	73	23	0.0556	0.50–0.95
VS 117 x Co 1	Rough	104	31	0.2988	0.50–0.95
VS 117 x TMV 4	Rough	80	35	1.1814	0.10–0.20
VS 117 x SVPR 1	Rough	60	21	0.1325	0.50–0.95

Value for heterogenity = 3.0193^{NS}

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