

INHERITANCE OF CERTAIN CHARACTERS IN THE COWPEA (*VIGNA SINENSIS*).

PART III. THE VERY SMALL-EYE PATTERN OF THE SEED-COAT.

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THE genetic constitution of certain types of seed-coat pattern in the cowpea has already been discussed in the first part¹ of this paper. Briefly the factorial composition of these is as follows:

Solid	...	...	$DH_1H_2, DH_1h_2, \text{ or } Dh_1H_2,$
Watson	...	...	$Dh_1h_2,$
Holstein	...	...	$dH_1H_2, dH_1h_2, \text{ or } dh_1H_2,$
Small-eye	...	...	$dh_1h_2.$

A cowpea with another type of seed-coat pattern was obtained from Vilmorin of Paris. The eye, or pigmented area was very limited in extent, being confined to a narrow belt of colour about 0.5 mm. broad round the hilum. This type was called Very Small-eye.

A cross of Small-eye by Very Small-eye gave the following results:

	F_1 .	Watson		
	F_2 .	Watson	Small-eye	Very Small-eye
		324	117	145
Expectation on 9 : 3 : 4 basis		330	110	147

Obviously the expectation on a 9 : 3 : 4 basis is practically realised. We may regard the cross as:

	Small-eye × Very Small eye			
	dY		Dy	
giving in F_2 :	$9DY$	$3dY$	$3Dy$	$1dy$
	Watson	Small-eye	Very Small-eye	

The Small-eye pattern may be regarded as being due to a factor Y , dominant to its absence. The factor D has no effect on seed-coat pattern except in presence of Y , but as it is also the factor for Dark flower, the Very Small-eye forms carrying D may be distinguished from forms without D by the flower colour, which is typically Dark.

It would be interesting to work out the relation of the Solid and Holstein patterns to Very Small-eye, but unfortunately the present writer will have no opportunity of carrying out further experiments on *Vigna* for several years. For this reason the above admittedly incomplete series of experiments have been recorded in this short note.

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