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1. Defective endosperm factors from maize-teosinte derivatives.*

Additional allelism tests have been obtained on the defective endosperm types (de^t factors) in the derivatives of the controlled teosinte introgression in the inbred A158.

While no other case of allelism has been found, it is now well established that de^{t12} , de^{t13} and de^{t25} are three different and independent factors. Moreover de^{t5} is not allelic to de^{t28} . When de^{t22} (an allele of de^{t13}) is introduced in the background of the stock of the balanced lethal system de^{t1}/de^{t2} , although segregating regularly in its own original background, it "disappears" completely. In other words the genotype De^{t22}/de^{t22} behaves as though it were De^{t22}/De^{t22} in the new background. The same behaviour had been shown to hold for de^{t5} in the genetic background of a multiple tester developed by Dr. P. C. Mangelsdorf (W. M. T. r. G). It should be noted that, while in the case of de^{t5} we are dealing with a factor affecting the endosperm mainly from a quantitative point of view, in the case of de^{t22} its effects are obviously also qualitative.

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2. Mendelian characters in Italian maize.*

Self pollination has been carried out in plants of over 200 samples of Italian maize provided by "Stazione di Maiscoltura di Bergamo".

The following mutants have been obtained in a total of 1500 selfed ears:

Character	No. of cases exhibiting a ratio of:		Character	No. of cases exhibiting a ratio of:	
	3:1	15:1		3:1	15:1

A. Seed Traits:

Defective	45	Floury	1
Opaque	4	Brittle	2
Lemon	2	Pink-yellow	2
White	2	Small	3
Waxy	3	Germless	2
Shrunken	4	Pregermination	1
Defective floury	1		

*Work subsidized by The Rockefeller Foundation, New York.

Character	No. of cases exhibiting a ratio of:		Character	No. of cases exhibiting a ratio of:	
	3:1	15:1		3:1	15:1
B. Seedling traits:					
Albino	9	2	Fine stripe on pale green background	3	1
Dwarf	8	3	Fine stripe on virescent background	2	
Luteus	18	3	Japonica	9	3
Yellow green	26	1	Bifurcate coleoptile	4	3
Pale green	54	11	Green striped	2	1
Fine stripe	21	8	Oily spotted		1
Glossy	39	12	Luteus + glossy	1	
Abnormal growth	20	26	Leafy coleoptile	1	
Liguleless	1		Green mottled	3	1
Virescent	49	12	Allium type	4	4
Lutescent	22	5			
Booster color	63	8			
Pale luteus	6	3			
Fine stripe on yellow green background	7	1			

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3. New knob types in Italian maize.*

The cytological survey of open pollinated Italian maize is in further progress. Among the findings dealing with knob characters, the following may be reported:

- a) The type of chromosome 8 possessing in its long arm a prominent chromomere distal to the large knob has been again found, in a few cases together with the standard but more distal large chromomere; this suggests that the new small knob position - exactly midway between the two standard ones - is really a new knob forming region, and not the result of a chromosome inversion involving the previously known types.
- b) A small knob has also been detected in the middle of the short arm of chromosome 8.
- c) In a few cases the distal prominent chromomere of the long arm of chromosome 6 has been found replaced by a large, long-shaped knob.

*Work subsidized by The Rockefeller Foundation, New York.

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