Numerical order	Mark	Denomination	Number of genes	Number of non-included symbols
139	pn, Pn	papyrescent glume	1	
140	po, Po	polymitotic	1	
141	Pp	pseudopod	1	
142	pr, Pr	red aleurone	2	
143	ps	panicula specialis	1	
144		pink scutellum	1	
145	pt, Pt	polytypic	1	
146	Pu	purple plumule	2	
147	py, Py	pigmy	2	
148	r, R	aleurone and plant colour	18	6
149		ragged seedling	1	
150	ra, Ra	ramosa ear	3	
151	rd	reduced plant	1	1
157	rp, Rp	rust susceptible (resistance)	4	2
166	sd, Sd	striped	1	
170	si, Si	silky ear	3	
171	sk	silkless	1	
182		target spot	1	
200	wd, Wd	white deficiency	1	
219	Summary		600	254

We have attempted to compile a comprehensive collection of the factors of maize, which we submit to our colleagues for their kind consideration.

Supplements and amendments will be published.

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1. The dominant mutable V^m mp-1817.

This dominant mutable expressed in the mature plant has virescent older leaves with dark green mutant stripes. A difference is observed in the virescent background of plants originating from crosses of the original green-striped plant with very white older leaves to diverse stocks. This virescent expression varies from extremes of near white to a near green and is caused by genetic modifiers in these diverse stocks. This has been confirmed by recrossing particular types distinguished by the background to lines with the known modifiers. Each line shows its distinctive effect on the expression. The relationship of the lines showing this effect, as well as linkage tests, are now being studied.

This virescent expression of $\underline{V^m}$ mp-1817 is associated with an additional feature--namely, the severe etching of the seed. It was originally not recognized since it is only detected when the mutant is used as a female and all the original crosses were made using it as a male. It may be an expression of this same mutant since the etching has not been separable from the plant character in preliminary tests.

The frequency and size of stripes also vary and are similar to the patterns of the En system. In tests of $\underline{a}^{m(r)}$ seeds giving rise to mutable plants, it is evident from the non-mutability of the $\underline{a_1}^{m(r)}$ kernels that En is absent, suggesting that the mutable is not under the control of En, but rather of another mutable system.

Peter A. Peterson*

2. Maleic hydrazide-induced chromosome breakage and its relation to differing knob number.

The roots of germinating seedlings were treated with 10^{-3} m solutions of maleic hydrazide. The chromosome breakage measured indirectly by counting anaphase bridges was studied, utilizing differing knob numbers of 0, 4, 6, 7, 8, 12 and 24. Comparisons could be made between 2 lines containing identical knobs but different knob numbers by utilizing the homozygote and the heterozygote (derived by crossing the individual strains to knobless flint).

The results show that a direct relation does not exist between knob number and chromosome breakage. For example, two different strains with 12 knobs were compared. One homozygous strain had a breakage frequency of 34.8% while the heterozygote derived from another strain, also with 12 knobs, had a frequency of 22.1%. These values were significantly different at the 1% level.

It would seem that the strains themselves as well as the particular knobs involved are important in determining the frequency of chromosome breakage. When identical knobs could be compared, it was found that the expected difference in breakage frequency was not realized. This would suggest that strain differences such as their influence on the physiology of the cell would be a significant feature influencing chromosome breakage. Additional studies to analyze the determinants involved are in progress.

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