

1. An a_1 mutable arising in pg^m stocks.

A newly arisen a_1 mutable that was segregating in a stock derived from a pale green mutable family was reported in the 1952 Maize News Letter. Tests were set up to determine the relationship of this new a_1 mutable to the Enhancer system controlling mutability at the pg locus; (i.e. $pg + En =$ mutable pg ; pg and no $En =$ stable pg .) One such test was designed to determine whether En is necessary for a_1 mutability. This was done by introducing pg^s (stable pale green, no Enhancer) into the a_1 mutable stocks that were not segregating mutable pg . This would test the presence of Enhancer in the a^m stocks. If a_1 mutability is controlled by En , all the pg seedlings arising from variegated kernels from the F_2 ears would be mutable. Following the selfing of these F_1 plants, (i.e. from the cross of a_1 mutable \times pg^s) a_1 mutable kernels were selected from F_2 ears and planted in seedling tests. Mutant pale green seedlings arising from these a_1 mutable seed were non-variegated or stable types indicating the absence of En to which pg seedlings respond. From this observation, it is evident that the factor that determines mutability at the a_1 mutable locus does not affect mutability at the pg locus. It is thus suggestive that this newly arisen a_1 mutable is not controlled by Enhancer.

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