preferential segregation with loci in chromosome 3, a number of plants were obtained which were heterozygous for abnormal 10 and carried a single B chromosome. Although our earlier studies had indicated no homology between the extra segment of abnormal 10 and B chromosomes, it was felt that a further examination was called for in view of Ting's (Chromosoma 1958) suggestion that the abnormal 10 which he found arose from a B-10 translocation. If the extra segment of the abnormal 10 found by Longley and subsequently widely studied by others has come from a B chromosome via translocation, pairing between the distal end of abnormal 10 and homologous regions of the B chromosome should occur frequently in plants with a single B and heterozygous for abnormal 10 because of a lack of pairing competition. A large number of pachytene figures were examined in such plants and, except for an occasional adhesion of the knob-like region of abnormal 10 to the distal heterochromatic regions of the B, there was no evidence of homology between the two chromosome segments.

M. M. Rhoades
E. Dempsey

IOWA STATE COLLEGE
Ames, Iowa

1. **The effect of the independent activator of a-mutable on pale green mutable.**

In a previous communication (MCNL 30) it was reported that pale-green-stable (pg^s) does not respond to the activator of a^m. It is now believed that in this case a non-mutable pg^s (similar to a^{dl}) was being tested. Recent experiments with a known mutable pg^s clearly show that pg^{s*} does mutate in the presence of the independent controller of a-mutable. Furthermore, this controller corresponds in every way to Enhancer and so will be designated En.

The test of similarity showing En to cause both a^{mI**} and pg^s to be mutable.

$$F_1 \text{ pg-segregating types}$$

+/pg^{s*} A A x Pg/Pg a sh/a sh***+ mutable factor -- 1/2 Pg/pg^s A/a sh
no mutable factor

$$1/2 \ Pg/pg^s \ A/a \ sh$$

+ mutable factor

* known to respond to En
** a^{mI} is mutable only in the presence of En
*** this a responds to Dt and not to En

		F_1 ⊠ and tested on a^{mI}**		On testcross to a^{mI}**	
		Gave a-mutable		Did not give a-mutable	
		In progeny of ⊠		In progeny of ⊠	
1958	Total No. of ears	segregates pg^m & pg^s	segregates only pg^s	segregates pg^m & pg^s	segregates only pg^s
1370	8	4	0	0	4
1371	4	1	0	0	3
1372	3	2	1****	0	0
1373	12	8	0	0	4
		15	1	0	11

** a^{mI} is mutable only in the presence of En
*** this a responds to Dt and not to En
**** only exception to correspondence of En causing pg^s to be mutable and a^{mI} to be mutable. In all other cases, the occurrence of pg^m is correlated with a-mutability.

P. A. Peterson

2. Other factors associated with a-mutable.

Dense factor

Among the tested progeny of one a^m allele, two very distinct pattern types were observed: very dense mutable (almost full color) and fine mutable (like Dotted). The following sample data represents some of the typical segregations of the two phenotypes.

The Cross: a^m Sh/a sh x a sh/a sh
(Dense) x colorless shrunken

1957

non-shrunken kernels

mutable

	very dense	fine
410-30 x a sh	93*	89**
31B-1 x a sh	44	52
410-4 ⊠	117	49
410-14 ⊠	168	42
410-31 x a sh***	76	39

* On further tests, Dense gives rise to 1/2 dense : 1/2 fine.
** On further tests, fine mutable gives rise only to fine.
*** These off-ratios have not as yet been analyzed.