

<u>Translocation</u>	<u>Symbol</u>	<u>Listed (Longley 1961)</u> <u>breakage points</u>		<u>New information,</u> <u>breakage points,</u> <u>etc.</u>
		<u>ratio</u>	<u>ratio</u>	
6-7	4964	6S.76	7L.72	6S Org. 7L.63 Phillips
6-7	6498	6L.16	7S.48	6L.23 7S near cent.
6-7	4545	6L.25	7S.73	6L.07 7S near cent.
6-7	013-8	6L.31	7L.22	6L.27 7L.63
6-7	8143	6L.35	7L.36	6L.18 7L.16
6-9	a	6S.79	9L.40	6S Org.
*6-10	McClintock			6S.5 10L.58
5-10	6061	5S.60	10L.57	2 10
*2-3	Clark (r-tester)			2 3

#### General Notes

1. The 1-5 interchanges: 058-2, 004-14, 4832, 5537, 5512, and 5813 were not received from the Coop or from Ames according to my records. All the others not in the list of changes have been tested enough to know they are 1-5 interchanges. The breakpoints of most have been verified cytologically, many genetically as to arm (Burnham et al. 1972, Genetics 71:111-126).
2. The 1-6 interchanges: For the following, the breakpoints are in the long arm of 6 as listed: 5013, c, and h.
3. The 4-6 interchanges: For the following, the breakpoints are in the long arm of 6 as listed: b, 6623, 8428 and 8927.
4. The 5-6 interchanges (Phillips, 1969, Genetics 61:107-116): For the following, the breakpoints are as listed: 6522, 4933, and only slightly different for 5906.
5. The 6-7 interchanges (Phillips, 1969): The breakpoints are only slightly different for: 4573, 7380, 6885, 4337.

Chas. R. Burnham  
(assisted by many over  
the past years)

7. Progress report on the all-arms single interchange marker series after at least 8 backcrosses.

T2-9c	is shown to be T1-6
T4-7(7108)	is shown to be T3-4
T5-8a	is shown to be T3-4
T6-9(5454)	which gives low sterility: probably an inversion.

This means that certain chromosome arms may be marked with only one interchange. For the list, see M.N.L. 42:122-123 (1968).

Charles R. Burnham

8. "Discussions in Cytogenetics" reprinted.

A private reprinting of my book "Discussions in Cytogenetics" is available. Copies may be obtained for \$9.80 plus mailing costs. Anyone wishing to order a copy should write to my home address: 1539 Branston St., St. Paul, Minnesota, 55108; the bill will be enclosed.

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1. An epistatic phenomenon resulting in aleurone color inhibition in maize.

In reciprocal crosses between individuals having the genotypes RR and rr, respectively, the expectations are: (1) self-colored kernels when the former is used as the female parent, and (2) mottled kernels when the latter is used as the female parent. We report here an exceptional case in which an interaction between a specific modifier, Ma, and a modifier-sensitive R allele, R\*, results in the absence or near absence of anthocyanin in aleurone cells having the genetic constitution rrR\*.

The epistatic phenomenon resulting in the absence or near absence of anthocyanin in rrR\* cells was first observed in the cross: Inbred line KYS (BzBz, cc, rr) X "Bronze" (bzbz, CC, RR). The reciprocal of this cross produced only self-colored kernels. On the other hand, when our  $K^L-9$  knob stock (BzBz, CC, RR) was reciprocally crossed to KYS, only self-colored or mottled kernels were obtained.

In order to determine the genetic difference between "Bronze" tester and  $K^L-9$  stock plants, the  $F_1$  and  $F_2$  individuals of the cross,  $K^L-9$  X "Bronze," were used as pollen parents in crosses to KYS. The results of the tests are shown in Table 1.