Two sib plants arising by self pollination of an $\underline{A}_1\ \underline{A}_1\ \underline{A}_2\ \underline{A}_2\ \underline{C}\ \underline{C}\ \underline{R}\ \underline{R}$ plant in the "high loss" stock showed quite different behavior when used as males in crosses with an $\underline{a}_1$ tester. The seeds were classified for whole losses of $\underline{A}^1$ and mosaics; the latter class is not as well defined since some kernels were small or had loose pericarp making it difficult to score small sectors. The results are presented below:

Male parent	A	A-a mosaics	a Dt
27342-19	364	5	45
	77	1	2
	252	0	20
	469	9	40
	380	11	27
	320	3	27
Total	1862	29	161

Male parent	A	A-a mosaics	a Dt
27342-27	378	3	1
	329	5	1
	427	5	1
	309	3	0
	410	7	0
	244	0	0
Total	2097	23	3

It is evident that there is considerable variation in this phenomenon from plant to plant, but that it is fairly consistent for any one male parent. This would indicate that the loss phenomenon has a genetic basis which will be the subject of further investigation.

A few of the exceptional a kernels were planted. They gave rise to A plants and on backcrossing showed typical 1 A: 1 a ratios. It was considered possible that the a kernels with A embryos arose by nondisjunction of chromosome 3 in the mitosis giving rise to two sperm cells. This is apparently not the case since the A plants did not exhibit trisomic ratios for A:a.

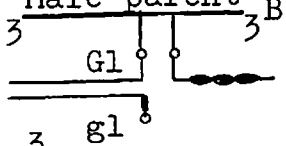
M. M. Rhoades
Ellen Dempsey

10. Cytological location of gl_6.

In the MNL 29:48, backcross data were presented involving TB-3a heterozygotes of Gl_6/Gl_6 constitution as male parents

on gl_6 females. The observation of gl individuals in the progeny was taken to indicate that gl is located distal to the breakpoint of TB-3a in the long arm of chromosome 3 (3L.1). These tests have not been considered entirely critical because hypoploid offspring often have an abnormal phenotype which might have been confused with gl even though the plants carried the Gl allele.

Recently this objection was eliminated by the following crosses:

Female parent	Male parent 	Gl	gl	Σ	%gl
a_1 gl_6		354	84	438	19.2
a_1 sh_2 Gl_6	"	331	0	331	0

The same male parents were used in crosses on the gl and Gl testers. In both tests a kernels were found on the ears and in the second cross these were also sh. Although hypoploids must be present in both progenies, gl plants were observed only in the backcross to gl females. Therefore, it is believed that the test is a legitimate one and that the Gl locus falls distal to .1 in the long arm of chromosome 3.

M. M. Rhoades
Ellen Dempsey

11. Recombination values in homozygous duplication and homozygous deficient plants.

In the Maize News Letter for 1960 I reported that crossing over in the Sh-Wx region was no greater in plants homozygous for a piece of 3L inserted into chromosome 9 than it was in plants homozygous for structurally normal chromosomes 9. The inserted piece of 3L was located between the Bz and Wx loci so, in the physically larger segment of chromatin between the Sh and Wx genes, one might expect to find higher recombination values. The crossover value of 17% found in Dp Dp plants is certainly no greater than the standard distance for this region and appears to be similar to the frequency found in control plants. Following publication of the preliminary report a considerable body of testcross data have been accumulated on crossing over in Dp Dp plants. They are listed below: