

Normal seedling	Wx kernels		wx kernels	
	Normal seedling	Albino seedling	Normal seedling	Albino seedlings
889		1	28	47

The data indicate that the albino factor is closer to Ga than wx; they also permit an estimate of the c.o. value between wx and w (about 2 ± 0.3%).

If ga gametes do not function, the percentage of the w seedlings (about 2%) doubled (4%) provides an estimate of the c.o. value between w and ga.

The distance wx - w is also obtainable from the following data derived from an F₂ in which the Ga - ga pair is absent:

Linkage phase	<u>Wx W</u>	<u>Wx w</u>	<u>wx W</u>	<u>wx w</u>	c.o. ± st. error
R	2021	977	887	4	7 ± 1
C	311	3	0	110	less than 1

Since the wx - w distance varies approximately between 0 and 7 c.o. units, the linkage map of the genes in the short arm of chromosome 9, on the basis of the available data, is tentatively as follows:

C 3 Sh 2 Bz (?) Ga_g (Schwartz and Salamini) 0 (?) Ga (Bianchi) (= Ga_g?)
 4 (?) w 0-7 wx.

A. Bianchi
 R. Parlavecchio

6. Linkage relationships for endosperms and seedling traits.

In the 1966 MNL, data were reported on a shrunken mutant showing a cross-over per cent of 32.5 with gl₃ and 18.7 with gl₄. The data suggested a close linkage between this shrunken type and su₁. This has been confirmed by the scoring of ears obtained from the self-pollination of plants derived from su and sh kernels on selfed ears of plants of the constitution Su sh/su Sh: only 2 ears out of 92 proved to be su su Sh sh or sh sh Su su, with the recovery of the double recessive.

Another case of close linkage is offered by the following data (F₂, repulsion phase):

<u>Gl</u> ₁	<u>Ij</u>	<u>gl</u> ₁	<u>Ij</u>	<u>Gl</u> ₁	<u>ij</u>	<u>gl</u> ₁	<u>ij</u>
6042		569		536		0	

A second ij-type and a virescent mutant show linkage with chromosome 4 markers:

	X Y	X y	x Y	x y	c.o. \pm	st. err.
<u>ij-gl</u>	3367	1471	1369	10	9.2 \pm	0.8
<u>ij-su</u>	4704	1384	1543	125	32.4 \pm	0.7
<u>v-gl</u>	1501	603	598	11	14.8 \pm	1.2
<u>v-su</u>	2213	774	649	111	40.0 \pm	0.8

In the 1965 MNL a case was described in which self-fertilization of plants $y_1 \underline{Ij/Y_1 ij}$ did not yield any double recessives. Further data are reported from selfed progenies studied recently, in comparison with 1965 data:

	<u>Y Ij</u>	<u>Y ij</u>	<u>y Ij</u>	<u>y ij</u>
1965	11365	5802	5735	0
1966	17550	8732	8645	8
Total	28915	14534	14380	8

(c.o. 2.35% \pm 0.28 st. err.)

C. Lorenzoni
M. Pozzi

7. Ethyl-methane-sulphonate (EMS) treatment on maize seeds.

Seeds of the single cross A 157 T x W 153 R have been treated with EMS for 12 hours, at 20°C., at a volume concentration of 1.5%. From the analysis of M_2 segregations the efficiency of the mutagenic activity of the chemical has been confirmed, as shown in the following table:

Segregations	Semisterile M_2 ears		Normal M_2 ears		Control ears	
	No. progenies	No. ears	No. progenies	No. ears	No. progenies	No. ears
Endosperm mutants	35	50	77	112	6	7
Chlorophyll mutants	10	16	32	60	4	8
Other seedling traits	15	23	31	42	0	0
Cases examined	30	140	74	282	74	322