

Other chlorophyll mutants show indication of linkage with genetic markers, as follows (F_2 data; repulsion phase).

Gene pair	A B	A b	a B	ab	Recombination % + st. error
<u>su</u> ₁ - virescent-type	909	366	195	55	43.5 ± 1.4 (1)
<u>gl</u> ₃ - " "	264	109	94	0	low (1)
<u>gl</u> ₁ - <u>yg</u> -type	731	425	282	109	44.2 ± 1.4
<u>gl</u> ₁ - <u>f</u> -type	542	161	191	40	45.1 ± 1.7 (2)
<u>o</u> ₂ - " "	169	57	63	4	29.1 ± 3.6 (2)
<u>wx</u> - <u>v</u> -type	584	336	248	5	13.0 ± 1.9

(1) the su₁ - gl₃ distance in these experiments turned out to be 42.0 ± 2.1.

(2) The o₂ - gl₁ distance in these experiments turned out to be 14.2 ± 1.5.

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3. Balanced lethal systems and physiological responses.

Two balanced lethal systems, based on defective caryopsis traits, have been recently described in maize - teosinte derivatives:

$\frac{De^{t1} de^{t2}}{de^{t1} De^{t2}}$ and $\frac{De^{t13} de^{t25}}{de^{t13} De^{t25}}$. The crossover percentage between the factors in both cases is about 14 so as to permit recovering of the normal genotype (ear segregating no defective) in about one case out of one hundred.

The double heterozygous plants have been compared with the normal ones for the field and laboratory traits, as follows:

Character	F i r s t s y s t e m		S e c o n d s y s t e m	
	double heterozygous	normal genotype	double heterozygous	normal genotype
Pollen shedding time (in days, from July 8 th)	-	-	9.38 ± 1.49	7.53 ± .95
	19.40 ± 0.41	18.63 ± 0.39	17.29 ± 0.78	15.24 ± .85
Kernel No./ear	121.1 ± 9.3	151.8 ± 6.5	-	-
Kernel weight in g (defectives excluded)	.215 ± 0.33	.204 ± 0.43	-	-
Root growth in mm ⁽¹⁾ after				
5	23.0 ± 0.7	24.2 ± 0.6	-	-
10	30.6 ± 0.9	32.5 ± 0.9	-	-
15	35.0 ± 1.3	36.3 ± 1.3	-	-
20	36.0 ± 1.7	38.5 ± 1.8	-	-

(1) Root-types of about 7 mm were cut and grown on artificial medium.

These preliminary results suggest a general delay in the growth rate of the double heterozygotes which produced ears with a lower number of kernels. Their larger size is obviously related to the presence of about 50% of defective caryopses.

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