4L	5L	6L	7L	8L	9S	9L	10S
1 c_2-like	1 wl	2 w	1 ad	1 wl	1 w	1 pg	1 l
	1 v	1 v	1 gl		1 wl		1 str
	1 d		1 wrinkled kernel		1 pg		
	1 gl				1 gl		
					1 rough kernel		

10L
1 l

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9. Yg_4 allelic to oy, designated Oy^{yg}.

Yellow-green plants heterozygous for Yg_4 (MNL 46:136) were crossed on normal green plants heterogygous for oy to determine whether or not the two genes were allelic, since both were located on the short arm of chromosome 10. 280 kernels from this cross were planted. 277 grew and produced 130 normal green, 72 yellow-green, and 75 deep yellow seedlings. The latter seedlings resembled homozygous oy except that they were lethal and died at endosperm depletion. This is a close fit to the expected results assuming Yg_4 and oy are alleles and that the deep yellow seedlings are the heterozygotes carrying both mutants. More sophisticated tests for allelism are presently blocked by lethality of the double mutant heterozygote. Based on the assumption of allelism and our observations, the following relationships are evident:

Genotype	seedling color	viability
Yg Yg	yellowish white	lethal
Yg/-hypoploid	yellowish white	lethal
Yg +	yellow green	viable
+ +	normal green	viable
+ oy	normal green	viable
oy oy	deep yellow (greenish)	viable
oy/-hypoploid	deep yellow (greenish)	lethal?
Yg oy	deep yellow	lethal

In view of the above facts it is appropriate to change the designation of this mutant to a dominant yellow-green allele of oy and give it the symbol Oy^{yg}.

Another peculiar characteristic of this dominant allele is that homozygous kernels appear to lose their viability quite rapidly. Plantings made soon after harvest of randomly selected kernels from selfed ears from dominant/normal heterozygotes gave good 1 yellowish white: 2 yellow-green: 1 green ratios, while plantings from the same ears 1 year later gave 2 yellow-green: 1 green seedlings with an occasional yellowish white seedling. Approximately 1/4 of the kernels did not germinate. These would account for the missing yellowish white seedlings.

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10. tn allelic to oy, designated oy^{tn}.

Crosses of tinged (tn tn) with yellow-green heterozygotes (Oy Oy^{yg}) and with oil yellow (oy oy) plants have given seedling progenies whose phenotypes clearly indicate allelism. The interactions are as follows:

parent genotypes	seedling phenotype
tn tn	green ⟶ yellow green
oy oy	oil yellow ⟶ yellow green
tn tn x oy oy	intermediate (yellow green)
tn tn x Oy Oy^{yg}	1 green: 1 lethal yellow
oy oy x Oy Oy^{yg}	1 green: 1 lethal yellow
Oy Oy x Oy Oy^{yg}	1 green: 1 yellow green

These observations demonstrate a complexity of activity at the oy locus that had not been suspected. More complete descriptions of phenotypes and better comparisons await conversion to a common background.

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11. Tan necrotic (nec-E409).

One of the tan necrotic mutants reported last year (nec-E409) has been located by selfing the hypoploids from each of the TB tests. Three out of four selfed ears from TB-5a hypoploids produced from the cross of