In diakinesis studies of the same plants, the family with 12 knobs showed fewer single individual bivalents, but more double and multiple bivalent associations. (Table II)

These observations suggest that the knob associations observed at pachytene persist through diakinesis.

Table I (Pachytene)

family	# of knobs	# of associations of 2 knobs	# of associations of 3 or more	total
'60-862	12	21	25	46
'60-844	8	24	1	25

$X^2 = 21.775$ $P<0.005$

Table II (Diakinesis)

family	# of knobs	cells	single bivalents	association of 2 bivalents	associations of 3 or more bivalents
'60-862	12	242	1647	194	106
'60-844	8	243	1777	161	80

For single bivalents, $X^2 = 10.09$ $P<0.025$

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1. Defective endosperm factor in maize teosinte derivatives.

The study of such *de*^{t} factors has been continued. Other allelism tests have been carried out. However, while no other sure cases of allelism have been found, it seems fairly well established that *de*^{t13} is not allelic to *de*^{t25} and to *de*^{t12}.

The stock segregating *de*^{t1}, which is known to be linked with *su*, presents also germless kernels with almost normal endosperm. It is of interest that *de*^{t1} kernels were defective for endosperm as well as germless. The percentage of the new germless is varying: some ears have about 25% of this condition together with an equivalent percent of the original *de*^{t1} kernels. Other ears show either only *de*^{t1} kernels or the new germless. It is not certain whether the new germless is an allelic special condition of *de*^{t1} or is controlled by another locus. In the first case the situation is similar to that described for *de*^{t2}, in which its intermediate allele, in heterozygous condition, produces "monohybrid segregation" of about 40% of defectives.

A large scale series of self-pollinations has been completed from ears segregating *de*^{t1} and *de*^{t2} in background in which both factors are relatively stable and clearly distinguishable from the normal class. The following results definitively prove that *de*^{t1} and *de*^{t2} are located on chromosome 4 and form an example of balanced lethal system:

	No. of ears segregating:	
both defectives	one defective	no defective
356	103	5

From such figures, clearly deviating from a 4:4:1 ratio indicating independence, it is also possible to calculate the recombination frequency between *de*^{t1} and *de*^{t2}. This turns out to be about 23 percent.

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2. Mendelian factors in Italian open pollinated varieties.

In the study of the genetical structure of Italian varieties more extensive data have been obtained, by artificially self-pollinating individual plants of some Italian open-pollinated varieties of commercial field corn. Table I shows the number of plants heterozygous for the recessive characters encountered in scoring the products of such self-pollinations.