ADDENDUM:

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1. Electrophoresis of embryo proteins of maize.

Water soluble components of the proteins of the maize embryo were separated by acrylamide gel electrophoresis as described by Steward et al. (1965) using a 7.5% polyacrylamide gel column 45 mm deep. For the preparation of extracts, 1 to 1.5 embryos per column were homogenized in tris-glycine buffer and the resulting homogenates were centrifuged at 4000 rpm for 10 minutes. The supernatant was directly added to the tube above an upper gel layer (3.75%, 14 mm deep). The electric current was regulated to 3 mA/column between upper and lower electrode vessels containing tris-glycine buffer of 0.1 M and pH 8.6, and lasted about 80 min until the indicator dye (BPB) attained the lower end of the column. The gels were stained in amido-black solution for one hour, then destained electrolytically using 7% acetic acid and in most cases the same apparatus as used for electrophoresis. The materials used are shown in Table 1. Since the stocks were unfortunately not isogenic in background, electrophoretic differences among lines cannot be directly related to the genotypes.

Table 1

The list of genotypes used

Line	Genotype	Chromosome having recessive genes
1	$\underline{ws}_3$, $\underline{lg}_1$, $\underline{gl}_2$, $\underline{b}$	#2
2	$\underline{ra}_2$, $\underline{lg}_2$	#3
3	$\underline{la}_1$, $\underline{su}_1$, $\underline{gl}_3$	#4
4	$\underline{a}_2$, $\underline{bm}_1$, $\underline{bt}_1$, $\underline{bv}_1$, $\underline{pr}$	#5
5	$\underline{o}_2$, $\underline{v}_5$, $\underline{ra}_1$, $\underline{gl}_1$	#7
6	$\underline{c}$, $\underline{sh}_1$, $\underline{wx}_1$, $\underline{gl}_{15}$	#9
Tama, Flint stock carrying the dominant loci for all recessive genes listed above.		

A total of 18 discernible bands was obtained in Tama, and the other lines lacked one or two of them. The bands were labelled 1a to 6, with 6 nearest the origin, as shown in Fig. 1. The genotypes (or lines) differed from one another quantitatively rather than qualitatively. Line 1 was characterized by the absence of 1b and 1d. Lines 2 and 3 resembled each other, but line 3 was differentiated by the absence of the 2d band. Line 4 has the 3d band characteristically faint. Both lines 5 and 6 had faint bands at 1b and 1d, but line 6 differed from line 5 in having a strong 2b and faint 2d bands. It was of interest that all the protein bands in line 5 tended to distribute in slower side of column, while in the hybrid of line 5 x Tama the proteins were normally distributed, losing this tendency.

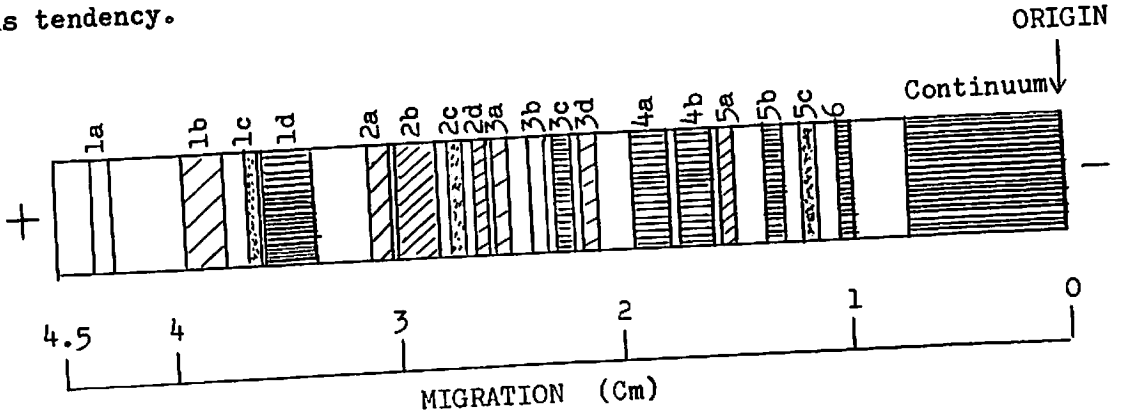

Fig. 1. Idiogramatic pattern of the protein bands of the Tama embryo.

The minute inspection of protein bands including their qualitative and quantitative nature may reveal molecular relationships between genotypes within species.

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2. Receptivity to gametes in the female inflorescence and the time elapsed from pollination to fertilization in maize.

The female inflorescence in maize loses the ability to receive male gametes if it is maintained intact for a long time without pollination. In the present experiment, H-73, a homozygous diploid line, was