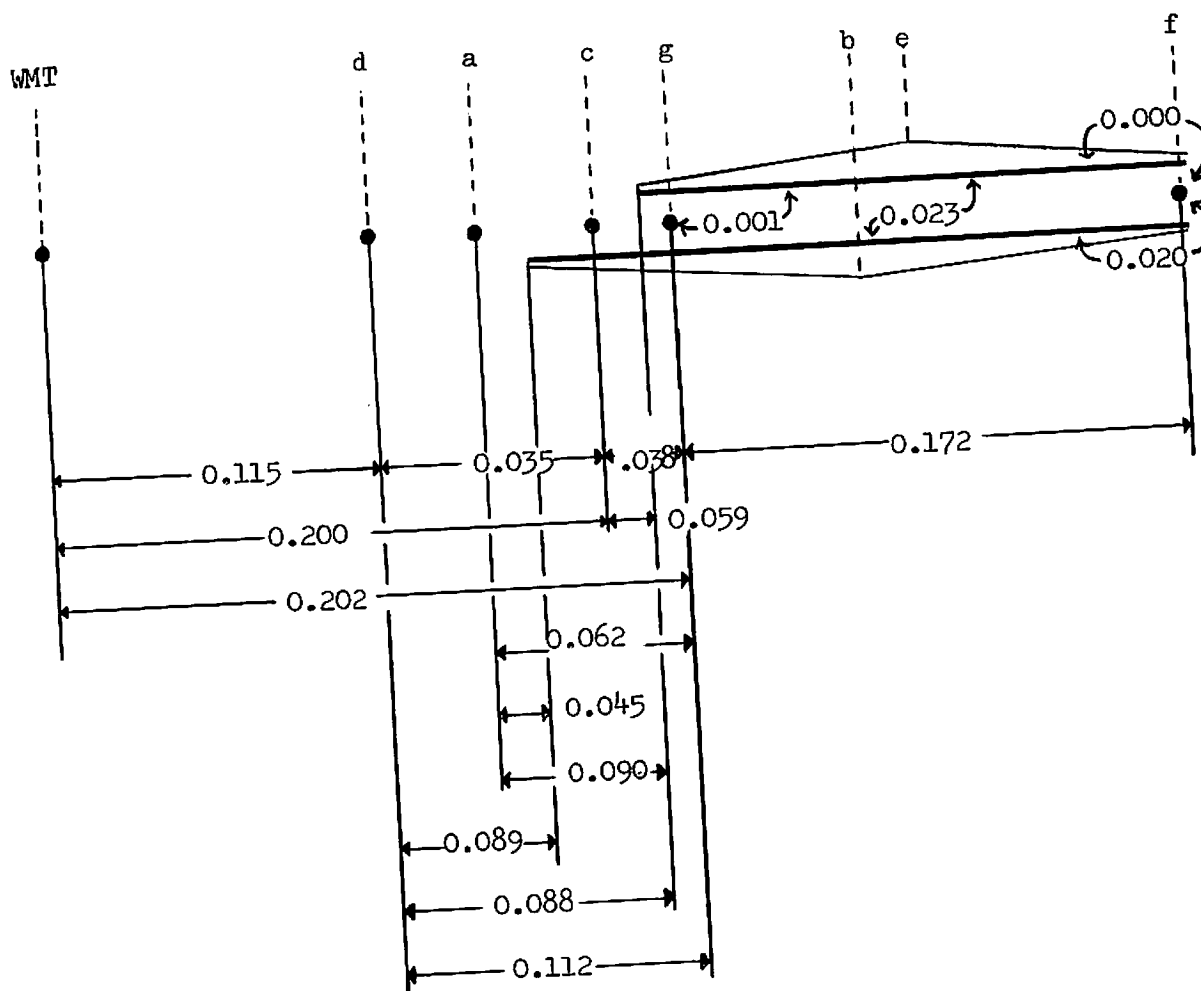The linear order of the alleles studied may be as follows (the b and e mutants are possibly deletions or intragenic inversions):

F. Salamini

2. An unstable locus affecting aleurone and anther color.

In a progeny of a plant yg_2 C bz wx (chromosome 9 tester, originally provided by Dr. B. McClintock) fertilized by X-rayed pollen of the genotype Yg_2 I Sh Bz Wx, an ear was obtained showing a peculiar spotting pattern in the aleurone layer of many kernels. From the sowing of these kernels were obtained two plants which produced one ear each: one with pale colored seeds, and the second segregating for the following seed types which, in turn, give the results described below:

Phenotype of parental seed / Traits in progeny	Self-colored	With large spots	With fine spots	Pale colored (no spots)
Anthers	Self-colored	Speckled red on white background; some are self-colored.	Finely speckled: some are self-colored.	No progeny
Ears	Monohybrid segregation (or no segregation) for: -spotted seeds - pale seeds	With spotted seeds: -large spotting -fine spotting -With some seeds self-colored -Segregating (or not) for pale colored seeds*	With finely spotted seeds Segregating (or not) for pale colored seeds.	

*Ears segregating for $\underline{wx}$ and pale colored seeds suggest linkage of the latter phenotype with $\underline{wx}$ (20-25 c.o.).

F. Salamini

3. **Weight of opaque (o_2) and normal kernels on the same ear.**

The factor $\underline{o}_2$ (opaque-2 on chromosome 7) is being used in maize breeding for the improvement of the protein quality. However, this gene affects negatively the weight of the kernel. An attempt is being carried out to find modifying complexes which minimize the difference between the normal and the opaque phenotype. An inbred line homozygous for $\underline{o}_2$, derived from an Italian variety, has been crossed with 74 lines (S_2), homozygous for the normal dominant allele obtained from the variety Lierna. Self-pollination of such hybrids has yielded ears segregating opaque kernels. The weight of the two classes of kernels has been measured; the results are as follows: