

5. Somatic mutation to B'.

Evidence from plants bearing sectors with new B' mutations shows that mutation can occur in B B or B b tissues, that B' is largely or completely cell-limited, and that conversion can occur well after tassel-branch differentiation, though it may not be restricted to late stages.

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6. Meiosis in haploids.

Agreement was found with the well-documented pattern of pairing and chromosome behavior typical of haploids in general and of maize haploids in particular (see review by Kimber and Riley, Bot. Rev. 1963) in meiosis of four haploids. Unexpectedly, however, a normal-appearing organized nucleolus was present in almost all microspore nuclei, whether small or large, even when a quintet or more of spores was formed. The meiotic behavior of the haploid microspore mother cells resulted in typical conspicuous shortages of chromatin in the spores and can be assumed to have produced only two chromosomes 6 for distribution among the spore set from each mother cell. Whether this unexpected nucleolus formation is unique to haploids of this origin (Coe's stock 6), or is a general phenomenon, an explanation is not immediately apparent.

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1. A scheme for simultaneous detection of nondisjunction, nonreduction and androgenesis.

In order to obtain information about factors involved in these phenomena from the same set of experiments, the following scheme has been adopted.

Ears of plants of the constitution A₁ sh₂/a₁ SH₂ subjected to various experimental conditions are pollinated by pollen from plants homozygous for a₁ and sh₂. Results expected under different situations are given below.

Phenotypes of kernels	Probable events	Remarks
1. <u>a₁ Sh₂</u>	(a) nondisjunction of chromosome 3, (b) nonreduction of eggs, (c) mutation	These can be distinguished by chromosomal counts.
2. <u>a₁ sh₂</u>	(a) androgenesis, (b) mutation	Examination of parental traits is necessary.