

obtain viable plants homozygous for the three teosinte seed trait alleles. Further experiments have been started making use of maize recurrent parents having single, multiply-marked chromosome arms.

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6. A new meiotic mutant?

In observing the cytological properties of a population of pachytene synthetic plants, a plant was found in which cytokinesis after telophase II was greatly delayed by comparison with normal plants, in which cytokinesis begins at meiotic interphase. In the putative mutant, all microspores examined showed an apparent coenocytic condition after T II. Smears revealed no trace of the beginnings of cell wall formation in what appeared to be tetranucleate microspores, well after T II. Division, however, eventually occurred, and normal, fertile pollen was produced. Good seed sets were obtained both by selfing and outcrossing to another diploid. No large pollen grains were produced and only shriveled seeds resulted from outcrossing to a tetraploid.

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1. Light effect on d_1 locus.*

Differences in manifestations at the organ level under environmental manipulation for a genetically determined locus such as d_1 give us information about the factors that influence the locus. The experiments reported here investigate the influence of light on the aspects of cell growth in which the d_1 locus participates. Seeds segregating for d_1 were germinated in two control temperature rooms at 26° C, one room in continuous

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