

to equality of distribution of cellular components at mitosis, thus accounting for sectoring. Moreover, it would seem to have lost a primary quality of infectiveness in its failure to reproduce independently of cellular reproduction. Hence, its state might be described as imperfectly integrated.

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8. Another case of simple inheritance of highly variable partial pollen restoration.

The inbred line, K64 restores partial and seemingly complete fertility to T cytoplasm which is variable according to environment, dosage effects, and genetic background, similar to the behavior of the classical inbred line, M14. Shaver (MGCNL 30:159) showed that the seemingly complex restoring characteristics of that inbred were actually controlled by a single locus which could be converted to nonrestoring state by simple backcrossing techniques. This finding was later confirmed in extenso by Duvick. Likewise, in K64, all of the seemingly endless degrees of restoration are controlled by a factor that segregates as a single gene in backcross recovery progeny.

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9. The use of id/id in production of super early corn.

In maize, the physiological limit to earliness would seem to be the need for a sufficiently long vegetative period to develop a plant "factory" large enough to support ear and grain production. Galinat has hypothesized that very early New England sweetcorns are always highly tillered because selection pressures have produced main culms which flower so early that they have insufficient photosynthetic capability, without tillers, to produce a realistically sized ear of table corn. Brawn, and later Shaver, have shown that Gaspe is so early that the main culm is florally induced as a maternal effect embryonically, while the meristematic apex is still within the seed. If one wishes to inbreed and thus further reduce an already minimal size of plant, special difficulties are experienced in barrenness or very marginal yield performance in the seedfield.