

by tap water. All of the seeds were planted in the field on the same day. Subsequently, all of the surviving haploid plants showed a chlorophyll-deficiency characteristic, and it varied in degree and extent from plant to plant. As compared with untreated sibs, these haploid plants were consistently shorter and less tillered. Among the diploid plants, 25 per cent of those receiving 0.25 per cent EMS treatment showed chlorophyll deficiency, while 75 per cent of those receiving 0.5 per cent EMS treatment manifested the same symptom. No chlorophyll-deficiency mutants were observed among the controls.

This experiment was repeated last November in the greenhouse. The same effects were found. In addition among the surviving haploid plants receiving 0.5 per cent EMS treatment, 60 per cent showed a slashed-leaf (sl) appearance. No plants of the controls demonstrated this characteristic.

Pachytene chromosomes from 5 diploid and 6 haploid M_1 plants, as well as from over 20 F_1 plants involving the cross of both diploid and haploid M_1 plants with the inbred Wilbur's Flint, were cytologically investigated. No gross chromosome aberrations of any kind were consistently found.

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3. Lethal homozygotes of T6-9t.

During the last three years, over 120 maize plants from the selfed progeny of plants heterozygous for T6-9t were cytologically studied. No plants homozygous for this interchange were identified. Last summer, 36 seeds (bz/bz) from the same pedigree, were planted in the field. As reported previously, the gene bz was located within the translocated segment of the short arm of chromosome 9. It was found that none of those seeds was viable. Thus, it suggests that the T6-9t homozygotes are lethal.

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