

of the corn-grass phenotype by dosage effect. Therefore, Cg is apparently distal to the translocation, as would be expected from its map position.

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## 2. Location of TB-5a with respect to marker loci.

A B-type translocation involving the long arm of chromosome 5 has apparently been separated from the X-ray induced translocation complex, involving chromosomes 5, 6, and a supernumerary, reported in MNL 42:132. Pollen sterility has dropped from the original 60-75% to about 30%. It now seems appropriate to name this translocation, so it is designated TB-5a.

The breakpoint of TB-5a lies between v<sub>3</sub> and bv<sub>1</sub>, the former being proximal and the latter distal.

Incidental information regarding td (thick-tassel dwarf) and na<sub>2</sub> may be of interest here. Both are proximal to TB-5a and both appear to be closely linked to the translocation. Since bv<sub>1</sub>, td, and na<sub>2</sub> plants are all somewhat dwarfed, the stocks were intercrossed to test for allelism; Na<sub>2</sub>/na<sub>2</sub> x bv<sub>1</sub> and Td/td x na<sub>2</sub> gave wholly normal progenies. The additional observation that na<sub>2</sub> and td are proximal to TB-5a and that bv<sub>1</sub> is distal makes it evident that the three represent distinct loci.

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## 3. Patterns of nucleolar distribution at the quartet stage of meiosis in tetraploids.

There are two nucleolar organizers located on the short arm of chromosome 6 in each microspore of a quartet formed from meiosis in a tetraploid. They each may form a small nucleolus or they may combine to form one large nucleolus. The greater the proximity of the nucleolar organizers, the greater is the probability that they will function together to form only one nucleolus. Consequently, the presence of only one nucleolus indicates that the short arms of chromosome 6 are close together.

There are six major types of patterns possible in a quartet. They are shown in Table 1. The plane of first division is very difficult