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1. Chromosome pairing studies.*

The following series of interchanges are being used in these studies: T1-5, T2-6, T4-6, and a few T1-6 and T5-9. Almost without exception homologous ends are closely associated at pachytene in all intercrossoes between stocks of interchanges that involve the same chromosomes. Intercrosses in all possible combinations between the members of each series have been made to test the applicability to corn of the intercross method as applied in barley (Kasha and Burnham, Canad. Jour. Genetics and Cytology 7(4):620-632).

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*supported by N.S.F.
Grant G B 1586.

2. Additional notes on the T2-6 interchanges.

T2-6 (027-4) has the break in 6 in the nucleolus organizer. In T2-6e the break in 6 is in the short arm between the centromere and the organizer. The break in 2 is also in the short arm.

Cultures of the interchange listed as T2-6 (014-11) show a chain of 6 chromosomes associated with the nucleolus. We have been unable to isolate a stock with an association of only 4 chromosomes.

Ronald L. Phillips
John T. Stout

3. Notes on the T1-5 interchanges.

In the following stocks, one chromosome is probably incorrect: 1-5 (8972), 1-5 (8347), 1-5 (018-5), 1-5 (024-5), 1-5 (4331), 1-5 (6178), and 1-5 (48-34-2). The breaks in chromosome 5 in 1-5a and 1-5 (6899), based on genetic data, are in the long arm rather than the short arm.

John Stout

4. Notes on a few of the 4-6 interchanges.

Based on cytological examination in homozygous lines, the following have the break in 6 in the short arm rather than

in the long arm: 4-6 (8591), 4-6 (025-12), and 4-6 (011-16).
The following have the break in 6 in the long arm as listed:
4-6 (8428), 4-6 (8927), and 4-6b.

Ronald L. Phillips
R. Bammi

5. Non-homologous pairing in double trisomics in maize.

Double trisomics of many different combinations have been observed to show very close pairing of non-homologous univalents in pachytene. In every case the ends have been paired and one or more foldbacks is present. In no case has there been pairing of the centromeres. The configurations indicate that pairing is initiated at both ends and proceeds toward the middle of the chromosomes.

The non-homologous pairing continues into diakinesis and metaphase. The frequency of paired non-homologous univalents has been determined at diakinesis. Table 1 gives the combined frequency of the different possible configurations at diakinesis for the different double trisomics thus far observed.

Table 1
Frequency of figures at diakinesis of double trisomics.

	<u>8II + 2III</u>	<u>9II + 1III + 1I</u>	<u>10II + 2I</u>	<u>11II</u>	<u>Total</u>
Number	867	444	140	63	1514
Per cent	57.3	29.3	9.2	4.2	100

Kenneth Michel

6. Early hybrid with good pachytene spreading.

This double cross hybrid Minn. A.E.S. 101, which has been carried on by sib crossing for the past 5 or 6 years, has given well-spread pachytenes (reported last year in the News Letter). The four inbred parents, grown last summer, do not have superior spreading ability. All have several knobs. The N.D. 203 line has a large terminal knob on the short arm of 9. The other three lines have a medium or small terminal knob on 9.

John T. Stout
Joseph Neubauer