

their maize homologues. Chromosome behavior at anaphases I and II was regular.

Y. C. Ting
Francine Torres
E. Dancewicz

2. Chromosome inversion of a maize tester plant.

During last year a cytological examination of a maize tester strain was made. The marker genes of this strain are $j\ v_{16}\ ms$ (hetero). This tester was obtained from Professor P. C. Mangelsdorf of Harvard University. At pachytene a paracentric inversion was found in the short arm of chromosome 8 of one of the plants. This inversion was practically terminal and it appeared the same as the In8 found in certain other strains of maize (McClintock, 1933, 1959) and in some Mexican teosintes (Ting, 1958). The length of the inverted segment was equivalent to about 50 per cent of the length of the short arm. Evidence of crossing over, such as bridges and fragments at anaphase I and bridges at anaphase II, was found.

Since the chance of the occurrence of two identical inversions in nature is practically nil, the existence of these aberrations can be used as a reliable marker of germplasm interchange among distinct species as well as among different varieties of the same species. Therefore, the In8 in this maize tester is considered as one more evidence of introgression between maize and teosinte. The direction of the introgression and the effect of this inversion on the frequency of crossovers in the heterologous chromosome pairs are under investigation.

Y. C. Ting
Francine Torres

3. Further study of the selfed progenies of a variegated-leaf homozygote (v_l/v_l).

Last year the selfed progenies of a variegated-leaf homozygote (v_l/v_l) were under further investigation. A total of 129 plants was available. Four of these were practically albino and died while they were at the seedling stage. This is completely different from a previous study (Maize News Letter, 1963) in which no albino seedlings were observed. The remaining 125 plants resembled average maize plants in size. However, it was found that the degree of variegation in the leaf-chlorophyll content of this mutant varied very strikingly. Subsequently these plants were classified into four classes by the size of the chlorophyll-deficiency area in per cent of the total leaf area.

Class A had three plants with 85 per cent of the total leaf-area deficient in chlorophyll. Class B had 21 plants with 75 per cent of the leaf-area deficient in chlorophyll. Class C had 44 plants with 50 per cent of the leaf-area deficient in chlorophyll. Class D had 57 plants with 25 per cent deficient.