$$\frac{k3\ lg}{k3\ lg}\ \frac{k10\ r}{k10\ r}\ \female \quad x \quad \frac{K^{L}3\ Lg}{k3\ lg}\ \frac{K^{L}10\ r}{k10\ R}\ \male$$

$$\frac{r\ Lg}{1755}\qquad \frac{r\ lg}{1683}\qquad \frac{R\ Lg}{1812}\qquad \frac{R\ lg}{1811}$$

These results indicate preferential segregation does not take place in the male under the conditions of these experiments. Since the above data only apply to segregation at MII, further crosses are being made to determine MI segregation as well as MII segregation in plants with knob consitutions differing from those in the crosses reported here.

Annette Waters

4. Studies with tetraploids and haploids containing abnormal 10.

The perennial question as to the relative influence of chromosomal and genetic effects on autotetraploid sterility is being re-examined in maize. Tetraploid seeds, with and without abnormal 10 (K10), have been obtained by selecting full grains from the cross, K10/k10 as X 4N, and will be grown this summer, sporocyted, and selfed to determine fertility levels. Data on chromosome association and anaphase behavior will be collected from the sporocyte material and correlated with the fertility data to determine the effects of K10-induced meiotic alterations on fertility.

Haploid plants, with and without K10, will be selected this summer from among the gl seedlings resulting from the cross, K10/k10 gl X Coe's haploid inducer stock-6. These plants will be sporocyted and outcrossed as females to provide material amenable to an analysis of the effect of K10 on the nature of crossing-over in maize haploids (see Alexander, 1964, Nature 201:737).

A. J. Snope

5. Recombination in homozygous T6-9b and normal chromosome 9.

Crossover studies with $\frac{Yg\ c\ wx}{wd\ C\ Wx}\ \frac{T6\text{-}9b}{T6\text{-}9b}$ individuals showed an altered distribution of exchanges when compared with standard values for the same regions in plants having normal chromosome structure. Crossing