ADDENDUM:

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1. Doubly and triply monosomic Zea mays.

When plants heterozygous for the $\underline{r}_{x-1}$ deficiency are used as females, a high frequency of monosomic individuals are produced in the $\underline{r}_{x-1}$ carrying progeny (Satyanarayana, unpublished). These are produced by a nondisjunctional event which takes place after meiosis during the megaspore divisions of the embryo sac.

Over 250 monosomic plants have been obtained in my work this past summer with this system. The monosomic plants are surprisingly vigorous and good microsporocyte samples have been taken from several of the individuals. In addition, a few pollinations have been possible using these plants. In addition to singly monosomic plants, doubly and triply monosomic plants are obtained. The doubly monosomic plants are currently under analysis to determine if distributive pairing is taking place in these plants. The triply monosomic plant had necrotic sectors on its leaf surfaces and it was stunted. At diakinesis in this plant, three univalents and 7 bivalents were regularly found. At metaphase I, the 3 univalents were usually positioned somewhat off of the metaphase plate at random in the cell. It is very surprising that a plant is able to tolerate this very large amount of chromosomal imbalance!

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2. The effect of B chromosomes on intragenic recombination.

Low numbers of B chromosomes apparently have little of no effect on the phenotype of maize while higher numbers cause several abnormalities. Cytological evidence that B chromosomes increase the mean chiasma frequency in maize has been shown by Ayonaadu and Rees (Genetica 39: 74, 1968). B chromosomes have also been shown to increase recombination between loci on chromosome 5 (Nel, M.G.N.L. 42: 63, 1968; 43: 54, 1969) and chromosomes 3 and 9 (Hanson, M.G.N.L. 35: 61, 1961) in maize. The present study was