In addition, diploid stocks homozygous for el are available. These stocks are of different maturities and are related to the inbreds, WF9, W22, W23, Oh40B, K155 and R4. Hybrids between some of these strains also are available.

C. S. Levings, III
D. E. Alexander

4. Performance of advanced generations of hybrids of autotetraploid maize and Euchlaena perennis.

In 1957, crosses were made between elongate-derived autotetraploid strains of corn and the 40 chromosome teosinte, E. perennis. The F_1 was weakly perennial. One plant was maintained in a pot in the greenhouse for three years and continued to flower intermittently for two and a half years before dying.

Advanced generations of the hybrid continue to resemble the F_1 closely with respect to tillering, plant morphology, flower morphology and time of flowering. A few segregates, however, have been found that possess eight-rowed and six-rowed ears; none of the segregates is strongly rhizomatous.

These observations suggest that preferential pairing occurs. This has not been verified cytologically, however.

Seed of E. perennis and of advanced generations of the hybrid through F_6 is available to anyone interested.

D. E. Alexander
J. B. Beckett

5. Genetic location of centromeres in maize.

Ordered tetrads of some of the fungi provide us with a mechanism for the mapping of centromeres. Autotetraploid maize likewise provides us with a unique mechanism for the mapping of centromeres although this mechanism differs from that of the ordered tetrads. This technique is based upon the occurrence of the phenomenon of double reduction. Double reduction occurs when the meiotic mechanism partitions 2 chromatids from 1 chromosome to the same gamete, which is in contrast to the ordinary circumstance when each gamete regularly receives one chromatid from each of 2 chromosomes of the 4. α has been designated by Mather as the coefficient of double reduction. In order for this phenomenon to take place a single cross-over must occur