For two of three hybrids the female fertility (as measured by number of seeds set) is not greatly different from the ten percent female fertility usually obtained from hybrids between 2N Tripsacums and maize. However, the third hybrid averaged 49.68% female fertility for three plants. In addition, the range in female fertility was large for each of the crosses. In number three one plant had 83.33 percent female fertility, but only ten seeds were obtained from twelve possible, which is a very small sample. However, one plant in hybrid number two had 71.23 percent female fertility. This plant produced 52 seeds out of a total possible of 73.

Individual rachises varied considerably in amount of female fertility. Three rachises out of 16 had 100 percent female fertility and 6 had more than 50 percent female fertility.

Farquharson (Am. J. Bot. 42-737) has reported the occurrence of facultative apomicts in Tripsacum dactyloides. Her results indicated that this type of apomixis was limited to 4N plants studied. The high degree of female fertility observed in these hybrid plants could have been the result of apomixis. This type of reproduction may have been transmitted from the Tripsacum parent to the hybrid. However, further analysis of the offspring is necessary before verification is possible.

R. J. Lambert

2. Aberrant segregation of a brittle-1 allele from teosinte.

In a program to evaluate strains of teosinte by backcrossing to maize, a brittle-1 allele was isolated from backcross-3 progeny selfed which contained Guerrero 258 as the teosinte parent. The test for allelism to brittle-1 produced progeny that were all brittle-1. Tests with other endosperm mutants were negative. Testcross data were 150 $Bt_1/-$:132 bt_1/bt_1 (P = .5-.3). However, a selfed ear, produced in 1963, from homozygous brittle seed gave a ratio of 105 $Bt_1/-$:103 bt_1/bt_1. The possibility of contamination or misclassification of $Bt_1/-$ seed from this ear could not be ruled out. When brittle-1 seed from this ear was planted in 1964 and selfed, one ear again gave a definite 1:1 segregation ratio (44 $Bt_1/-$:40 bt_1/bt_1). A tentative explanation for this aberrant segregation is that the endosperm classes have the following phenotypes:

$\underline{Bt_1}$ $\underline{Bt_1}$ $\underline{Bt_1}$	Normal
$\underline{Bt_1}$ $\underline{Bt_1}$ $\underline{bt_1}$	Normal
$\underline{Bt_1}$ $\underline{bt_1}$ $\underline{bt_1}$	Brittle *(unusual class)
$\underline{bt_1}$ $\underline{bt_1}$ $\underline{bt_1}$	Brittle

Work is planned to determine the frequency of this aberrant ratio in the population in an attempt to clarify further this unusual segregation ratio.

R. J. Lambert

3. Location of glossy-4 in relation to cytological breakpoints of paracentric inversions in chromosome 4L.

A series of paracentric inversions obtained from Dr. Gregory Doyle was crossed to su gl4 stocks in order to determine the location of glossy-4 in relation to the proximal breakpoints of six different paracentric inversions of 4L. The recombination value between sugary-1 and glossy-4 was used as a measure of the location of glossy-4 in relation to the cytological breakpoints. The following table gives the results for the testcross data:

Testcross	Parent Types		Cross-overs		% Recombination
	Su_1 Gl_4	su_1 gl_4	Su_1 gl_4	su_1 Gl_4	
Inv. 4e (.16L-.81L) x su gl4 / su gl4	463	400	5	5	1.16
Inv. 4f (.17L-.63L) x su gl4 / su gl4	604	622	7	9	1.30
Inv. 4i (.19L-.66L) x su gl4 / su gl4	576	555	6	2	0.07
Inv. 4j (.24L-.66L) x su gl4 / su gl4	682	688	87	75	11.82
Inv. 4a (.30L-.90L) x su gl4 / su gl4	634	649	45	36	6.31
Inv. 4d (.40L-.96L) x su gl4 / su gl4	618	619	71	60	10.59

Cytological breakpoints determined by D. Morgan, R. Morris and A. E. Longley.