Several interesting growth patterns have been observed in some of the dissected embryos. One produced 10-12 plumule-like green projections on a sphere of undifferentiated tissue. Another produced a near-normal epicotyl that grew into the medium and maintained its green color for a time.

Clint Magill
D. E. Alexander

3. Corn x Tripsacum hybrids.

The relationship of corn and Tripsacum has long been recognized. Forty-six European varieties and 82 corn belt inbred lines of corn were crossed with a clone of Tripsacum dactyloides having 2n=36 chromosomes. Corn was used as a female parent and two ears of each line were pollinated with Tripsacum pollen by the method outlined by Mangelsdorf and Reeves (1939). Immature embryos were excised under sterile conditions 12 to 28 days after pollination and were grown in nutrient media (White, 1943) in small 3 1/2" vials. Best growth was observed in embryos cultured 18 to 20 days after pollination; however, younger and older embryos failed to grow in vitro.

In general, Tripsacum crosses with open-pollinated European corns were more successful than when corn belt inbred lines were used. Fifteen of the 46 European varieties produced viable embryos when crossed with Tripsacum. Of the 82 corn belt inbred lines, only 12 were able to hybridize with Tripsacum. Reciprocal crosses using Tripsacum as female parent were also attempted, but in almost all cases, plants produced from the embryos are like Tripsacum and are probably apomictic. Further studies on the chromosomal relationships in the hybrids are in progress.

Satish C. Anand
Earl R. Leng

4. Location of brachytic-2 dwarf.

Mung(unpublished) found the possible location of brachytic-2 as chromosomes 1, 3 or 6. An attempt was made to locate this gene, with A-B translocations, on the above mentioned chromosomes. Dwarf type plants occurred in the F_1 cross (br_2/br_2 x TB-1a)(break in 1L .2). but because of the reduced vigor of the hypoploid individuals it was impossible to classify the plants as dwarf or normal. Therefore, the F_1 hypoploid plants were backcrossed to the following three genotypes: Br_2/Br_2; Br_2/br_2; br_2/br_2. The data for the backcross progeny, presented in table 1, indicate that brachytic-2 is located in the long arm of chromosome 1.

Table 1

	Backcross	$Br_2/-$	br_2/br_2	Total
1.	Br_2/Br_2 x (br_2/br_2 x TB-1a)(hypoploid plant)	26	0	26
2.	Br_2/br_2 x " " " "	37	28	65
3.	br_2/br_2 x " " " "	0	278	278*

*combined data from several families

The testcross data in table 2 were obtained by the use of reciprocal translocation stocks involving chromosome 1.

Table 2.

Translocation	Break Point	XY	xY	Xy	xy	Total	% Recomb.
1. T1-8	1S .39 8L .07	137	84	71	133	425	36.47
2. T1-6c	1S .25 6L .27	175	54	80	146	455	29.45**
3. T1-3	1 cent. 3 cent.	134	48	28	127	337	22.55**
4. T1-9	1L .19 9S .20	117	16	3	133	269	7.06**
5. T1-8	1L .22 8L .78	172	22	12	146	352	9.66**

X=translocation heterozygote;x=normal;Y=normal ht.;y=brachytic-2
** X^2 for independence $P > .01$
The data in table 2 again indicate that brachytic-2 is located in the long arm of chromosome 1.

Brachytic-1 dwarf is also located in the long arm of chromosome 1. The test for allelism of these two dwarf mutants is negative. The F_2 of these two dwarf mutants segregated 228 normal: 184 dwarf (X^2 for 9:7 ratio = .1368; P=.75-.50). Brachytic 1 and 2 should therefore be over 50 cross-over untis apart in the long arm of chromosome 1.

R. J. Lambert

5. Frequency of seed set in an F_1 hybrid of Tripsacum and corn.

Well-established clonal divisions of the F_1 hybrid of T. dactyloides (3n=54) x Zea mays var. Puño (originally produced by Lois Farquharson) were allowed to open-pollinate in the nursery. Out of a total of 417 spikelets, 25 produced well deveoped seeds (6.0% seed-set). In hand pollinations, using corn as the male parent, 6 seeds were obtained from a total of 50 spikelets pollinated (12% seed- set). Nine of the 31 seeds germinated and two of these produced twin seedlings. The occurrence of twins indicates that the polyembryony of the Tripsacum parent was transmitted to the hybrid. The open-pollinated seedlings could be backcrosses to corn or Tripsacum, selfs, or apomicts. Cytological analysis of the plants is necessary to determine their chromosomal