

of recessive marker genes, either singly or in linked series, from corn. The data so far obtained, presented below, show that one Tripsacum chromosome carries dominant genes preventing the expression of three recessives on the short arm of chromosome 2 while another Tripsacum chromosome corresponds to the other arm. A similar situation exists with respect to chromosome 4. A single Tripsacum chromosome carries dominant genes which mask four recessive genes on chromosome 7 and another Tripsacum chromosome masks five recessive genes on the short arm of chromosome 9.

<u>Corn chromosome</u>	<u>Dominant from Tripsacum</u>
1	<u>Bm</u> <sub>2</sub> *
2S	<u>Ws</u> <u>lg</u> <sub>1</sub> <u>Gl</u> <sub>2</sub> (does not cover <u>v</u> <sub>4</sub> )
2L	<u>V</u> <sub>4</sub> * (does not cover <u>lg</u> <sub>1</sub> <u>gl</u> <sub>2</sub> )
3	<u>A</u> <sub>1</sub> *
4S	<u>Su</u> <sub>1</sub> (does not cover <u>gl</u> <sub>3</sub> )
4L	<u>Gl</u> <sub>3</sub> (does not cover <u>su</u> <sub>1</sub> )
7	<u>V</u> <sub>5</sub> <u>Ra</u> <sub>1</sub> <u>Gl</u> <sub>1</sub> <u>I</u> <sub>j</sub>
8	<u>J</u> <sub>1</sub> *
9	<u>Yg</u> <u>C</u> <u>Sh</u> <sub>1</sub> <u>Bz</u> <u>Wx</u>

\*Allo-trisomic stocks which were lost but are being re-developed. The data for a more complete genetic map of Tripsacum will be forthcoming as crosses and backcrosses to multiple marker gene stocks of corn are made.

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## 2. A planting in Florida of perennial relatives of maize.

Arrangements have been made during the year to establish and maintain at the Montgomery Foundation of the Fairchild Tropical Garden, Miami, Florida, a collection of the perennial relatives of maize. Representative specimens of the collections of Tripsacum from Mexico and Guatemala made by Dr. Raju Chaganti and Mr. Garrison Wilkes (mentioned in last year's News Letter) were delivered to Florida and are now well established in a planting protected from frost by a sprinkler system. The planting includes all of the known species of Tripsacum, some interspecific hybrids in Tripsacum, perennial teosinte, three species of Manisuris, and Elyonurus tripacoides. In February all species except T. australe were in flower. The National Science Foundation has made a grant to the Fairchild Garden to

maintain the collection for a period of five years. Maize geneticists wishing to use the collection or to add to it should get in touch with Dr. John Popenoe, Director, Fairchild Tropical Garden, Miami, Florida.

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3. Simple dominance of a day-neutral-like condition in an F<sub>2</sub> generation of a corn-teosinte hybrid.

The distribution of anthesis dates in the F<sub>2</sub> of a cross between Gaspé Flint and Amecameca teosinte is<sup>2</sup> bimodal with a large peak in the middle of July and a small peak in the middle of August. An organization of the data on the basis of these two months separates the two peaks and reveals an almost perfect 3:1 ratio, as follows:

<u>Anthesis Date</u>	<u>Frequency</u>	<u>Anthesis Date</u>	<u>Frequency</u>
July 6	2	August 2	1
8	4	4	1
10	9	6	2
12	17	8	3
14	5	10	5
16	6	12	2
18	3	14	2
20	2	16	0
22	2	18	1
24	3	20	1
26	3	22	1
28	2	24	0
30	3	26	0
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TOTALS	61		20

The strong effect of Gaspé Flint germplasm in producing a day-neutral-like condition for flowering of just the main stalk, even in the presence of id id has been found by Brawn (MNL, 1963). Likewise in our segregation from Gaspé Flint x teosinte, many of the plants which flowered early in July on the main stem, continued to grow tall tillers which flowered about a month later, in August. The anthesis dates reported are only for the main stems.

Much of the material from this segregation has promise for the early synthesis of a 'day-neutral' type of teosinte of possible agronomic, genetic and evolutionary importance.

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