

Family 66-10 (really rootless)

Treatment	Root Weight (g)		Shoot Weight (g)	
	<u>Fresh</u>	<u>Dry</u>	<u>Fresh</u>	<u>Dry</u>
Dist. water	8.5	3.2	694.4	110.0
TIBA	41.0	15.7	455.0	82.7
GA	98.9	15.1	709.2	113.5
NAA	244.2	49.4	693.3	105.5
IBA	4.3	.9	683.8	104.4
Control	3.6	1.6	1671.5	244.2

Norton H. Nickerson

2. Races of maize in Panama.

As a part of the Bio-Environmental effort to appraise effects of a sea-level canal in Darien, Panama, I was asked to make a study of cultivated crops among the Choco Indians this past fall. Internodal and tassel data on 5 - plant samples from each of 10 Indian fields were obtained. Soil and kernel samples were obtained for mineral analysis by the University of Florida. Seventeen collections of maize, totalling 118 ears, were obtained from various locations on the major drainages of the area, Rio Sabana, Rio Chucunaque, Rio Tuirra, and Rio Balsas (Rio Tucuti). Preliminary study shows evidence of more complex race relationships than had previously been assumed.

These may be tentatively summarized as follows:

Race designation	# of Collections in which racial characters are present	# of ears exhibiting racial characteristics
Nal-Tel	8	33
Cuban Flint	4	13
Chococeño	7	24
Coastal Tropical Flint	8	51
not the same {	Negrito	4
	Negro	1
Cariaco	1	8
Pollo (?)	1	2
Capio	1 (plants measured; no ears obtained)	

The slash-mulch cultivation method reported for the Province of Choco in northern Colombia is also practiced in the valleys of the upper Rio Balsas drainage system.

Norton H. Nickerson

TULANE UNIVERSITY
New Orleans, Louisiana

1. Terminal loop configurations in maize x teosinte hybrids.

Teosinte stocks collected in Mexico and Central America (MNL 37, 1963; MNL 38, 1964) have been crossed with a knobless New England flint (Wilburs Flint) and the pachytene chromosomes studied cytologically (Teosinte--The Closest Relative of Maize, Bussey Institution of Harvard University, 159 pp. 1967). Unique terminal loop configurations of the pachytene chromosomes have been observed in maize x teosinte hybrids using three of the recognized races of teosinte (Guatemala, Chalco, Central Plateau). These loops are very similar to inversion configurations and they are terminal, but it is questionable if they are, in fact, terminal inversions. These terminal loop configurations are seen in the short arms of chromosomes 8 and 9 and are not found in every cell prepared from a single anther in plants known to possess them. Some cells show a non-paired segment on the short arm, while the majority appear to be perfectly normal and pair with no observable inversion configuration. Working on the hypothesis that these loops represent several small chromosome rearrangements or small non-homologous segments in the short arm that, depending on condition at pachytene, may act as a single rearrangement, I have begun genetic studies with maize tester stocks for chromosomes 8 and 9 to test the suppression of genetic crossing-over and chiasma formation. Also, because these loops do not appear with regularity in lines known to show loop configurations attempts are being made to select teosinte lines in which the expression of the loop is complete in every pachytene cell. Genes unique to teosinte are hypothesized to reside isolated from maize introgression in these terminal inversion-like configurations. It is hoped that once these non-homologous segments are established in a high penetrance, loop forming line and genetically mapped, their transfer to a maize background will help us in identifying the genes which separate teosinte from maize.

H. Garrison Wilkes

2. Teosinte x maize hybrids, Nobogame, Mexico.

Naturally occurring teosinte x maize hybrids have been reported from Mexican maize fields, but seldom, if ever, are these plants thought to have been purposely planted by the cultivator. Most maize x teosinte hybrids are attributed to teosinte fruitcases containing hybrids naturally disseminated in the field. Of all the sites where maize and teosinte are known to hybridize naturally the maize cultivation pattern at Nobogame has probably changed the least over the last 150 years (MNL 39, 1965). Therefore, a detailed analysis of the maize from a field where teosinte x maize hybrids were present was undertaken. A careful study