

crossover kernels verified in the classifications for the translocation and \underline{M}^{st} , and (2) the frequency of kernels in the $\underline{R}^{st} \underline{Wx}$ crossover class was reduced to the same proportion as the $\underline{r} \underline{wx}$ crossover class to correct for the presumed transmission of duplicate-deficient gametes. The data from the \underline{R}^{st} and \underline{r} kernel classes are presented separately in the tabulation below, and where data for a particular chromosome segment were obtained from both classes a pooled value is shown.

The $\underline{R} - \underline{M}^{st}$ distance has been measured in nontranslocation stocks (Ashman, Gen. 45:19-34) and was found to be 797/13,881 or 5.7 crossover units. The difference between this value and the one shown in the table, 0.4, represents the crossover suppression effect of the translocation. The $\underline{R} - \underline{T}$ distance has been estimated by others to be about 5 crossover units; our data estimate this distance to be, at most, 2.9 units, and the pooled data gave a value of 2.3 units.

Chromosome region	\underline{R}^{st} kernels		\underline{r} kernels		Pooled
	Frequency	%	Frequency	%	%
R - Wx	-	-	204/1193	17.1	-
R - \underline{M}^{st}	5/1136	0.4	-	-	-
R - T	19/1136	1.7	31/1070	2.9	2.3
\underline{M}^{st} - T	14/1136	1.2	-	-	-
T - Wx	161/1136	14.8	144/1070	13.5	13.8

R. B. Ashman

3. The location of miniature seed (mn).

The location of the miniature seed (mn) character has been shown to be on chromosome 2 (MGCNL 39: 158, 1965). Evidence of the position of miniature seed (mn) on chromosome 2 comes from the following testcross data.

W22 was crossed by a chromosome 2 tester carrying \underline{lg}_1 , \underline{gl}_2 , \underline{v}_4 and mn and backcrossed to the chromosome 2 tester. A total of 452 normal kernels from this cross was planted and scored for \underline{lg}_1 , \underline{gl}_2 , and \underline{v}_4 with the following results:

		<u>Marker</u>	<u>Total</u>	<u>% Recombination</u>
+++	184			
++ \underline{lg}_1	46	\underline{lg}_1	219	48.5
+ \underline{gl}_2 +	8	\underline{gl}_2	172	38.0
+ \underline{gl}_2 \underline{lg}_1	142	\underline{v}_4	72	15.9
\underline{v}_4 ++	40			
\underline{v}_4 + \underline{lg}_1	10			
\underline{v}_4 \underline{gl}_2 +	1			
\underline{v}_4 \underline{gl}_2 \underline{lg}_1	21			
	<u>452</u>			

This would indicate that miniature seed (mn) is located between v₁ and gl₂ having 16% recombination with v₁ and 38% recombination with gl₂.

Joseph Van Horn

PUNJAB AGRICULTURAL UNIVERSITY
Ludhiana, India
Department of Plant Breeding

1. Variable reaction of the monogenic resistant varieties Lady Finger Pop Corn and G.E. 440 to H. turcicum.

Lady Finger Pop Corn (PI. 217407) and inbred G.E. 440 have been reported by Hooker (1963) to carry dominant monogenic resistance to H. turcicum, the causal organism of the northern leaf blight of maize. He further observed that the genes controlling restricted chlorotic type of lesions in the two cultures were either alike, allelic or very closely linked. Recently Sharma and Aujla (1966) for the first time observed that the variety Lady Finger Pop Corn was highly susceptible to leaf blight in the northern hills of India (Kulu Valley). Since this observation differed from the report by Hooker, it was thought that the H. turcicum culture prevailing in India may be a different biotype than the isolates used by Hooker for studying the reaction of the variety. Prompted by this, it was thought desirable to study the reaction of G.E. 440 also to the prevailing biotype in the field inoculum.

The observations were taken on Lady Finger Pop Corn as well as on G.E. 440 at two different locations, viz. Bajaura (Kulu Valley) and Hyderabad. The reaction type on the two cultures was characteristically distinct at both places. On G.E. 440 the lesions were typical as described for the inbred by Hooker giving a restricted chlorotic type, while in the case of Lady Finger Pop Corn the lesions were clearly of the susceptible type as reported earlier by Sharma and Aujla. Later on these findings were confirmed under controlled conditions at the seedling stage in pots at Bajaura.

This sort of differential reaction of the two varieties indicates the presence of either different alleles at the same locus or different closely linked genes. The study is in progress and an F₂ population from the cross between Lady Finger Pop Corn and G.E. 440 will be studied for reaction to leaf blight in the 1968 rainy season.

D. Sharma
S. S. Aujla

UNIVERSIDADE DE SÃO PAULO
Piracicaba, Brazil
Escola Superior De Agricultura "Luiz De Queiroz"
Instituto De Genetica

1. Determination of amino acids in maize through a microbiological method.

Since the discovery that varieties of maize containing the opaque-2 (o-2) gene have higher amounts of certain amino acids, mainly lysine, there is