

It is suggested that the symbol Ht be used to designate the dominant gene in inbred GE₄₄O for chlorotic-lesion resistance to Helminthosporium turcicum. Up to this time, the genes in GE₄₄O, W37A, and Ladyfinger popcorn cannot be distinguished genetically or by disease tests.

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2. Location of a dominant gene in maize for resistance to Helminthosporium turcicum.

Homozygous resistant selections of GE₄₄O and Ladyfinger were crossed to a series of chromosome rearrangements marked with closely-linked endosperm or seedling traits. The F₁'s (all resistant) were then testcrossed to susceptible stocks recessive for the appropriate genetic markers.

Classification of the testcross progenies is being carried out in the greenhouse this winter. Seed are planted in soil in flats, and the seedlings are artificially inoculated about three weeks after planting. Plants are scored for disease reaction at about five weeks of age.

In two series of plantings which have been run, tests have been made of 24 rearrangements, which together mark one or more regions in each of the ten chromosomes. In all cases, evidence for linkage has been negative or inconclusive, with the exception of Inv 2a, which gave the following results:

$\frac{gl_2 \text{ Inv } 2a \text{ ht}}{+ \quad + \quad Ht}$	X	$gl_2 \text{ ht}$	
<u>Classes</u>		<u>Number</u>	
$gl_2 \text{ ht}$		300	
$gl_2 \text{ Ht}$		56	Recombination = 119/709 = 16.8%
+ ht		63	
+ Ht		290	
Total		709	

Additional testcross progenies involving Inv 2a, T 2-6b, and T 2-10b are now being grown to provide further linkage data.

It is planned that homozygous resistant selections will be crossed to Chromosome 2 genetic testers in the current winter greenhouse generation as the first step in mapping the gene for resistance.

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