	1954-55			1955-56	
	Plant infestation, 74 days	Ear infestation	Total damage in ear	Plant infestation, 126 days	Ear infestation
	%	%	%	%	%
R inbreds	47.3	17.4	0.46	-	-
S inbreds	70.1	38.9	1.20	-	-
R X R	53.5	26.8	0.85	32.4	13.4
R X S	60.7	28.9	1.01	39.4	20.9
S X S	78.1	61.7	3.44	50.8	30.1

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1. Breeding tests for blight resistance.

Inbred lines resistant to the leaf blight caused by Helminthosporium turcicum differ greatly in their usefulness as sources of blight resistance. Experiments to evaluate the comparative breeding potential of resistant inbred lines have been in progress for several years. The general procedure has been to cross the resistant lines with one or more susceptible testers, advance the crosses to the F_2 generation, grow these populations under a heavy blight epidemic, make individual blight ratings on the F_2 plants, and compare the distributions of these F_2 blight scores.

An experiment involving 16 resistant inbred lines and the three susceptible testers R4, Tr and 187-2 was grown at Belle Glade, Florida last spring. The resistant lines, the mean blight scores of the F_1 and F_2 plants of the crosses involving them and the percentage of F_2 plants with "0" blight ratings are listed in table 1. The tests suggest that CI.90A and GAL440 are superior to the other tested lines as breeding sources of resistance.

Table 1. Summary of the blight reaction of 16 resistant lines in crosses with 3 susceptible testers.

Resistant lines	Mean Blight Scores		Percent of F_2 plants rated "0"
	F_1's	F_2's	
CI.28A	1.84	2.07	0
CI.81A	2.15	2.68	0
CI.84A	2.01	2.61	.3
CI.86A	1.80	1.90	.8
CI.87	1.95	2.31	0
CI.88A	2.22	2.09	.4
CI.90A	1.63	1.67	3.3
CI.91A	2.34	2.73	0
GAL440	1.23	1.67	1.7
GE259	2.13	2.38	.1
GA199	1.84	1.91	.4
B3478	1.80	2.00	0
Np3197-3	1.89	2.11	.6
Lg2323	1.85	2.21	.3
B3372	2.24	2.52	.1
Ba4032	1.67	1.94	.1

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1. Test of doubleness at C locus.

Three of the cases in the test for crossover-separable components in C^i, reported last year, proved to be contaminations. Tests are not yet complete on the fourth, and new cases obtained this year are still to be tested. The accumulated data are as follows:

Cross: + C^i +/yg C sh X yg c sh, B.C. to c

Class	Examined	Plants	Per Plant	Colored	Test of
C^i sh	193,050	508	380	1 sh	I c
yg C^i +	423,600	1,411	300	3 Sh,1 sh	c I
Grand T	616,650	1,919	681	5	I C, C I