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1. Inheritance of chlorotic lesion resistance to *Helminthosporium turcicum* in the Australian inbred NN14.

Chlorotic-lesion resistance to northern leaf blight (*H. turcicum*) has been described in previous communications from this laboratory. It has been found in numerous pop, sweet, white dent, yellow dent, and flint corns and in teosinte. Usually resistance is inherited as a single dominant gene in each source, although a slightly different form of chlorotic-lesion resistance is apparently recessive in inheritance.

Inbred NN14 is unique in that it contains two dominant genes for resistance. This hypothesis is supported by the following data from crosses involving several susceptible inbreds and NN14:

Cross	Greenhouse or Field Test	Observed Ratio		Expec- ted Ratio	$\bar{X}$	P Value	
		Res.	Susc.				
NN14 x B14 F <sub>2</sub>	Greenhouse	92	4	15:1	0.7111	0.30-0.50	
NN14 x Syn A F <sub>2</sub>	"	93	5	15:1	0.2204	0.50-0.70	
(NN14 x Syn A) x 168	"	74	26	3:1	0.533	0.80-0.90	
R168 x NN14 F <sub>2</sub>	Field	95	9	15:1	1.0256	0.30-0.50	
		Res. Seg.	Susc.				
NN14 x B14 F <sub>3</sub>	Greenhouse	58	59	7	2:8:1	0.4770	0.30-0.50

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2. Apparent reversal of dominance of a gene in corn for resistance to *Puccinia sorghi*.

Necrotic flecks develop on seedlings of the resistant inbreds NN14 and M16 when inoculated with *P. sorghi* culture 901aba whereas small pustules surrounded by chlorotic margins develop when these inbreds are inoculated with culture 933a. Well developed pustules without chlorosis form on the susceptible inbreds B14 and R168 when inoculated with either culture.