levels of constitutive resistance in the laboratory were significantly related to the amount of damage that was sustained by lines in the field, as shown in Figure 3 (Likelihood ratio test: deviance=1.267, df=7, P=0.033).

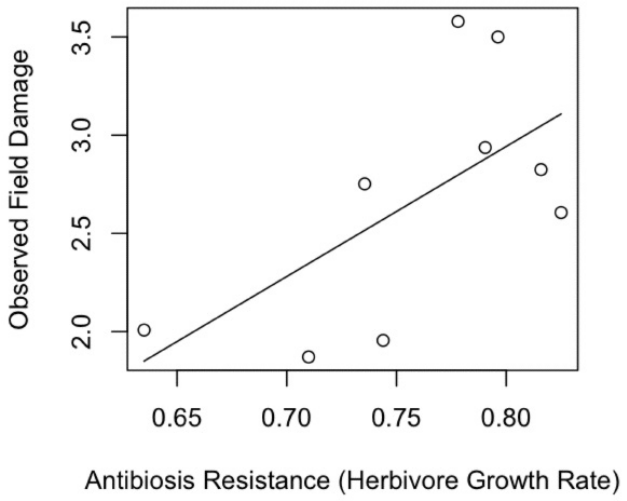

Figure 3. The relationship between average damage index values and average antibiosis resistance (as measured by herbivore growth rates) for the chosen subset of nine lines. Antibiosis resistance demonstrated a significant linear relationship with observed damage levels according to a likelihood ratio test (deviance=1.267, df=7, P=0.033).

The concordance between the patterns of resistance observed in the field versus laboratory suggests that constitutive antibiosis resistance expressed by the lines is important for deterring leaf damage. To the extent that this relationship holds up, these types of herbivore growth rate bioassays may provide an efficient method to pre-screen germplasm for resistance prior to more extensive field trials. Despite the fact that our observations of damage in the field were predicted by laboratory measures of resistance, follow-up studies will still be needed in order to confirm whether levels of resistance in these lines are stably expressed across seasons, locations, and developmental stages. This study confirms our suspicion that these maize diversity lines could be used to learn more about the genetic basis of herbivore resistance and the effect of genetic variation in plant defense on ecological dynamics.

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Allelism testing of miscellaneous stocks in the Maize COOP phenotype only collection

--Jackson, JD; Harper, C

This report summarizes allele testing of miscellaneous stocks characterized by phenotype only in the Maize Genetics COOP Stock Center collection. Crosses were made between known heterozygotes if possible. Ears were shelled and planted in sand benches to score seedlings for the appropriate phenotypes. Plants from the lazy crosses were scored in the field at maturity. Proposed new designations have been assigned to these alleles. These stocks have been increased and placed on our stocklist. It is expected that with further sorting and allelism testing of mutations characterized by phenotype only, additional alleles of characterized mutants will be discovered and placed in the main collection.

POSITIVE TESTS:

previous designation	allelism test with *spt1*	new designation	MGCSC: stock number
spt-92-3239-53*	positive: (+ / *spt1-N464*) x (+ / *spt**)	*spt1-92-3239-53*	226J

previous designation	allelism test with *oro1*	new designation	MGCSC: stock number
oro-85-3087-3*	positive: (+ / *oro1-6474*) x (+ / *oro**)	*oro1-85-3087-3*	616C
oro-88-89-3550-32*	positive: (+ / *oro1-6474*) x (+ / *oro**)	*oro1-88-89-3550-32*	616D

previous designation	allelism test with *la1*	new designation	MGCSC: stock number
la-05HI-RnjxW22GN-333*	positive: (+/*la1*) x *la**	*la1-05HI-RnjxW22GN-333*	406E
la-MTM4659*	positive: (+/*la1*) x *la**	*la1-MTM4659*	406F

New alleles of *chlorophyll1* found in lemon white endosperm stocks in the Maize COOP phenotype-only collection

--Jackson, JD

This report summarizes allele testing of lemon-white endosperm stocks characterized only by phenotype in the Maize Genetics COOP Stock Center collection. Here pale kernels linked to pale-green or albino seedlings characterized all stocks. Many had previously given negative results in tests with *vp*9, *w3* and *y9*. The *cl1 Clm1-3* stock used in crosses here carries a dominant modifier of *cl1* that allows for viable green plants, making crosses with a homozygous stock possible. Crosses were made as follows: [+/*lw**]@ X *cl1 Clm1-3* or +//+/*lw** X *cl1 Clm1-3*. Ears were scored for the segregation of pale yellow kernels.

New designations have been assigned to these alleles and they have been placed in the main collection. Stocks with this same phenotype that were found to complement *cl1 Clm3* will be tested for allelism with other stocks linked to pale endosperm.

Previous designation	allelism test with *w3*	New designation	MGCS stock number
5705F *pale- y*-87-88-2679-1*	4 positive	*cl1-87-88-2679-1*	306H
5908Q *y-vp*-1982-1*	3 positive	*cl1-1982-1*	306I
5910M *pale-y*-85-3007-40*	3 positive	*cl1-85-3007-40*	306J
5912P *lw-y-pg*-1998-4*	5 positive	*cl1-1998-4*	306K

New alleles of *white3* found in viviparous stocks in the Maize COOP phenotype only collection

--Jackson, JD

This report summarizes allele testing of various viviparous and lemon-white endosperm stocks characterized only by phenotype in the Maize Genetics COOP Stock Center collection. Here pale kernels linked to pale or albino seedlings characterized all stocks. Many had previously given negative results in tests with *vp*9 and *y*9. The *w3-y11* stock used in crosses here is homozygous viable. Crosses were made as follows: [+/*vp**]@ X *w3-y11* and +//+/vp* X *w3-y11*. Ears were scored for the segregation of pale yellow kernels. In most cases, pale-yellow kernels were selected from positive allele test ears and planted in the field for observation. Seed-