New alleles of *shrunken6* and *albescent1*.

Stinard, PS and Sachs, MM
Maize Genetics Cooperation Stock Center
USDA/ARS/MWA
Urbana, IL

Last year (MNL 91), we reported the results of tests of allelism of mutants with shrunken kernel phenotype from our phenotype only collection. Most proved to be allelic to *sh1*, but one, *sh*-N1531*, did not. Mutant kernels of *sh*-N1531* give rise to pale green seedlings that die at the 4 to 6 leaf stage. Other shrunken kernel mutants that give rise to pale green seedling lethals include *o5* and *sh6*, so this summer, we conducted tests of allelism of *sh*-N1531* with *o5* and *sh6*. Plants grown from nonmutant kernels from F2 ears of *sh*-N1531* were selfed and outcrossed to known heterozygotes of *o5*, and to plants grown from nonmutant kernels from F2 ears of *sh6-8601*. All crosses of heterozygous *sh*-N1531* plants to the *o5* tester produced nonmutant kernels. However, two ears segregating for shrunken kernels were obtain from crosses between *sh*-N1531* and the *sh6* tester. Mutant kernels from the positive allele test ears were planted in the sand bench and gave rise to pale green seedlings, confirming the allelism of *sh*-N1531* with *sh6*. We have given *sh*-N1531* the new designation *sh6-N1531*.

pale-y-85-3377-2* is a pale yellow endosperm mutant in our phenotype only collection; mutant kernels give rise to seedlings and adult plants that are either fully green, or have slightly bleached leaf tips. In previous years, we tested this mutant for allelism with pale yellow endosperm mutants that either give green plants (*y1*, *y8*, and *w3-y11*) or green plants with bleached leaf tips (*y9*). All such tests were negative. This summer, we tested for allelism with *al1-y3* and obtained four positive results. Mutant kernels from the allele test ears that were doubly heterozygous for *al1-y3* and *pale-y*-85-3377-2* gave rise to green seedlings; homozygous *al1-y3* kernels from F2 ears gave rise to albescent kernels as expected. *pale-y*-85-3377-2* appears to be a weak allele of *al1* and has been renamed *al1-85-3377-2*.