$\underline{R}^{st}$ was not resynthesized in the heterozygous combination involving the red plant mutant $\underline{r}^{r-m}$(nc)1-3. Based on the frequency of $\underline{R}^{st}$ resynthesis in the heterozygous combination involving $\underline{r}^{g}$(nc)1-3, the kernel population from the $\underline{r}^{r-m}$(nc)1-3 combination should have yielded about 16 $\underline{R}^{st}$ mutants, and their absence is clearly significant.

The data above indicate that $\underline{I}^{R}$ is lost when $\underline{r}^{g}$(nc)1-3 mutates to $\underline{r}^{r-m}$(nc)1-3. The direction of the plant color mutation, from green to red, suggests loss of a suppressor of a plant pigmenting component, and the implication is that $\underline{I}^{R}$ is the suppressor. A crossover in the parental $\underline{R}^{r}$ $\underline{R}^{st}$ plants could have brought together the plant color component (P) from $\underline{R}^{r}$ and $\underline{I}^{R}$ from $\underline{R}^{st}$.

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1. Rapid test to screen "opaque 2" maize for approximate lysine content.

The obtaining of hybrids, from maize "opaque 2," rich in lysine with higher test weight than kernels that are entirely opaque would be interesting from an agronomic standpoint. We do not know the relations between lysine content of the entire kernel and the degree of opacity. A test would be very useful in order to screen, at the beginning of a breeding program, the young lines rich in lysine with modified opaque kernels (opaque 2 x modifier genes interactions).

Described below is a test called "double-analyzing of nitrogen" using Kjeldahl and Pro-meter, a dye-binding method.

The principle of this test is based on the following observations:

- the contents of nitrogen, determined with Pro-Meter and Kjeldahl, are identical with "normal" kernels,
- the Pro-Meter and Kjeldahl determinations give different values in tests of "opaque 2" kernels; the proteins of "opaque 2" kernels absorb more dye than those of "normal" kernels.

The importance of the difference between nitrogen content, as determined with Pro-Meter and Kjeldahl, is related with the proportions

among different protein fractions and in particular with the quantity of proteins others than zein, those having a greater biological value than zein.

The author investigated 26 different selections. He found a correlation (r = 0.800) between the quantity of lysine in the entire kernel and the difference of nitrogen content : Pro-Meter less Kjeldahl.

The test of "double-analyzing of nitrogen" is simple, cheap, rapid (40-50 determinations a day) and sufficiently accurate to screen corn inbred lines for approximate lysine content.

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1. Aleurone color variegation involving the R locus.

A heritable system producing aleurone color variegation was reported in M.G.C.N.L. 43:176-178, 1969. The variegation consists of irregular colorless aleurone areas on a colored aleurone background. Further study of this system has shown the aleurone variegation to be determined by interaction of an element, designated Ac^R, with alleles at the R locus.

The Ac^R element is inherited independently of the R locus, and it exhibits the following properties:

(1) Ac^R is effective in producing variegation only when present in 2 or 3 doses in the triploid endosperm.

(2) Ac^R is pollen transmitted at markedly reduced frequency. About 1/3 of the male gametes from Ac^R/- plants transmit the element.

(3) Ovule transmission of Ac^R is slightly reduced.

(4) Presence of Ac^R in a plant appears associated with some reduction in seed sets. There appears to be no reduction in pollen fertility in Ac^R/- plants.

The Ac^R element thus exhibits an unusual pattern of inheritance and spectrum of effects. The element exhibits no specificity for