

The diallel system has provided data on the heritability of the difference between the kernel weight in the normal and opaque-2 phenotypes. A large fraction of the genetical variance is of the additive type. Significant are also the components related to dominance and to maternal effect.

The main conclusions are as follows:

- (a) the lack of phenotypic effect of the  $o_2$  gene on the plant suggests the use of heterozygous plants in selection, which permits the evaluation of weight decrease in  $o_2$ ;
- (b) the selection for a negligible difference between  $o_2$  and normal kernels is expected to be successful on the basis of the statistical significance of the additive component of heritability;
- (c) the variability in lysine content of  $o_2$  kernels justifies the selection for a better expression of the character;
- (d) the simultaneous selection for  $o_2$  kernel weight increase, total protein content, and lysine content appears feasible.

T. Ekpenyong  
F. Salamini

## 2. Further data on an unstable factor affecting anther and aleurone color.

The data obtained recently on the system reported in the 1967 M.N.L. (100-101) permit us to present the following conclusions:

- (1) A factor appears to affect both anther and aleurone tissues; in fact the color pattern in the anther corresponds perfectly with that of the aleurone.
- (2) The segregation data suggest that the instability of the color gene is controlled by an Activator factor. The latter is linked to chromosome 9 markers (sh, wx). When the Activator is absent the phenotype produced by the color gene is pale bronze. Such a gene is not allelic to any of the following factors:  $A_1$ ,  $C_1$ ,  $C_2$ ,  $R$ ,  $Bz$ . The only indication of linkage is with chromosome 1 markers; consequently we suspect that we are dealing with a  $bz_2$  allele.
- (3) A Spm test has been carried out with plants exhibiting the typical anther and aleurone pattern of instability. The wx pollen from these plants on a  $wx^{m-8}$  tester produced typical wx patches in the kernels.
- (4) The activator shows dosage effect. Two or three doses of the factor delay the formation of the colored spots which, in such cases, appear very small.

A. Bianchi  
F. Salamini

## 3. The knob endowment of selected lines of maize.

A number of standard inbred lines have been studied as to knob endowment as appears from the following table: