

The present data suggest that  $I_2$  may be either on chromosome 9 or chromosome 7. However, the recombination value of 18.36% between  $I_2$  and  $wx$  is about the same as that between  $I_1$  ( $C^I$ ) and  $wx$  and it would not be surprising if  $I_1$  and  $I_2$  turn out to be allelic.

Comparisons between  $I_1$  and  $I_2$  have been made regarding their expression against a common colored aleurone tester. Various  $R$  stocks in a common background have also been tested against  $I_2$ . These were included at the suggestion of Prof. R. A. Brink and the seed was kindly made available by him. The data are summarized in Table 1.

The following observations are made:

(1)  $I_2$  seems to have somewhat less capacity to inhibit aleurone pigmentation than either  $I_1$  (Coe) or  $I_1$  (Coop). The differences could be due to differences in the genetic background. If the differences are real, two classes of colored kernels would be expected on test crossing the  $I_1 I_2$  heterozygote on  $A C R$ . This test is under preparation.

(2) All the colored aleurone stocks carrying different  $R$  alleles are inhibited much more than the standard  $A C R$ . The significance of this observation is not clear. One would have anticipated that at least there should have been less inhibition by  $I_2$  against  $A C R^{Sc}$  than with  $A C R$ .

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## 2. UV--Irradiation of $A_1 Ds$ pollen.

Pollen grains with the genotype  $A_1 Ds$  (without  $Ac$ ) were irradiated with ultraviolet light obtained from a germicidal lamp. The idea was to see if  $Ds$  can be "mutated", inactivated or deleted without affecting the  $A_1$  locus. The change so brought about should be detectable as full or partially colored kernels in the cross to an appropriate tester ( $a_1^s sh_2$  or  $A_1 Ds$ --both with  $ac$ ). We have now tested 2279 UV--irradiated gametes. Not a single colored kernel has been obtained.

(Seeds for this study were kindly made available by Dr. Barbara McClintock.)

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## 3. Role of chemical composition in radiosensitivity of seeds.

(a) Protein content: Maize strains differing in their protein content were tested for their radiosensitivity. The low protein (L.P.) strain having only about 5% protein in seeds, was compared with the high protein (H.P.) strain which had about 23% protein. The two strains differ in their rates of growth, L.P. being the slower of the two. Because one of the criteria of radiobiological damage is seedling height in a finite period direct comparison would not be possible. Since differences in protein content between L.P. and H.P. appear to be primarily due to