

2 or 4 groups of one bivalent each were found. The second division is also quite regular but in two cells, out of several studied at anaphase II, chromosome bridges in one cell and a laggard in the other were observed. Pollen fertility and seed setting are good.

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1. Absence of a detectable change in  $D_s$  at the  $A_1$  locus following mutagenic treatments.

In last year's MNL we reported our observations in regard to the stability of  $D_s$  at the  $A_1$  locus. We now present additional data regarding the absence of a detectable change in  $D_s$  at the  $A_1$  locus following certain "mutagenic" treatments viz. Ultraviolet radiation, gamma-rays and Mitomycin C.

It is known that UV irradiation of pollen produces discrete changes at the genic level. It was assumed that a "change" in  $D_s$ , without affecting the  $A_1$  locus, would restore the function of  $A_1$ . No such change was detected as Table 1 shows. That the treatment was in general mutagenically effective is shown by the fact that a very large number of cases of  $sh_2$  were obtained, although most of these must be losses of  $Sh_2$  following the generation of breakage-fusion-bridge cycles.

Similarly no change was detected for  $D_s$  following gamma irradiation of pollen or plants. Gamma radiation in general does not produce discrete changes and practically all the changes must be due to marker loss. However, the B-F-B cycles are correlated with the "recreation" of  $D_t$ -like elements but in the present case no  $Ac$ -like elements were generated.

Mitomycin (MC) was used since it is a known agent for the induction of lysogenic bacteria. If  $D_s$  were like a prophage, then conceivably it could be induced by MC treatment. MC was apparently very mildly mutagenic. Its ability to "induce"  $D_s$ , if it is an inducible prophage, remains in doubt. No colored kernels were obtained (Table 1).

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2. Induced mutation of  $I$  and  $C$ : a comparison.

The complex inter-relationships of expression and dominance among  $I$ ,  $C$  and  $c$  are not readily interpretable in terms of the structure and function of the locus or loci involved. By themselves  $III$ ,  $CCC$  and  $ccc$  genotypes respectively condition colorless, colored and colorless aleurone.  $I$  and  $c$  are resolved only when present together with  $C$ , the former being dominant and the latter recessive to  $C$ . Further, because both  $I$  and  $C$  are mapped very close together, it is generally considered that  $I$  and  $C$  or  $c$  are either components of a compound locus or form an allelic series of a