

change. Forty-four of the changed plants were examined for pollen fertility. In general the pollen fertility was higher in red anthers than in the green ones. Similar changes were observed with the $\underline{A} \underline{B} \underline{P}_1 \underline{R}^R$ homozygous stock but the incidence was much lower and the sectors very much smaller.

These observations are not readily explained in conventional terms. Since the colored anther color phenotype is dominant over the green anther phenotype, a simultaneous mutation or deletion of the \underline{P} component of \underline{R}^R locus would have to occur in both chromosomes to manifest this change in the first generation. This is highly improbable from what we know of the mutation rates of certain gene loci. The determination of the basis of this change must await further work.

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1. Male-sterility as affected by seed storage.

Seed of Llera III, a derivative of the Tuxpeno race of maize from Mexico, was produced by sib pollination during the 1963 winter at Hyderabad. During summer 1965 a yield trial was planted at Indian Agricultural Research Institute, New Delhi, in which Llera III was one of the entries. While taking notes on various characters it was observed that Llera III had 2.9 per cent male-sterile plants. The anthers of the male-sterile plants were shriveled and there was no pollen formation in any of the anthers. When a random sample from the same seed lot of Llera III, which was increased at Hyderabad during the 1963 winter, was grown at the Birla Institute of Scientific Research, Rupar, during the 1967 summer, 12.5 per cent male-sterile plants were observed--an increase of 9.6 per cent over what was observed in 1965 summer.

Two possibilities seem to have given rise to an increased percentage of male-sterile plants during the 1967 summer, when the source of seed for both the years of study happened to be the same. Either there has been inadequate sampling during the 1965 study or else the seed storage for another two years has resulted in an increase of male-sterile plants in the population. Such a storage effect has been noted in mutation studies.

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1. Analysis of variation of an autodiploid strain of maize by means of diallel cross analysis.

In genetic studies, especially for quantitative characters, it is sometimes very important to have available strains with an homogeneous genotype;