

rachilla/kernel indices, proved to be quite susceptible to environmental influences. Again, indices based upon solely vegetative characters were consistently influenced more strongly by environmental factors and interaction than were those based on reproductive characters.

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1. Induction of chlorophyll sectors by DES.

Homozygous opaque-2 seeds were treated with various concentrations of DES ranging from 0.0025 M to 0.01M for 8 hrs. by replenishing the solution every hour. Among the 559 surviving plants, 176 were found to have three types of chlorophyll sectors, i.e., yellow, albino and yellow-green. The sectors ranged from 0.1 to 1.5 cm in width and from 1/3 to the whole length of the leaf.

Yellow sectors were more frequent on the 6th, 7th and 8th leaves and albino sectors were more frequent on the 6th and 7th leaves whereas yellow-green sectors were more frequent on the 5th and 7th leaves.

The three types of chlorophyll sectors were examined histologically; the yellow and albino sectors were found to have no chloroplasts, but the yellow sectors retained a yellow pigment in the bundle sheath. The yellow-green sectors showed chloroplasts only in the upper epidermis.

In the treated material it was observed that four plants had one leaf without a mid-rib and two plants had a terminal modified "thread like" leaf.

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2. Some pigment studies in different genotypes of maize.

The husk and aleurone tissue of cherry (r^{ch}) and purple (Pr) and husk tissue of B have been analyzed chromatographically and spectrophotometrically.

The comparison of Rf values and absorption maxima of various