3. Effect of su2 on sh2.

When Sh2 sh2 is segregating in ears homozygous for su2 su2, the highly collapsed phenotype typical of sh2 sh2 is not obtained. The doubly recessive su2 su2 sh2 sh2 kernels are similar to su4m su4m du du kernels in phenotype. This reaction is similar to the effect of a on su1.

-- Herbert H. Kramer

4. A new "salmon silk."

A salmon silk character which shows good expression in the absence of red pericarp has appeared in progeny from U. V. treated pollen. If allelic to sm, linkage studies on chromosome 6 should be facilitated.

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1. The Wx/wx locus.

A. Segregation in backcross progenies

The frequency of tWX pollen grains in plants of a backcross progeny (90 x C) x C has been investigated with greater numbers than previously. At the same time the F1 was grown as a standard. The mean frequency of tWX pollen grains in the F1 plants sampled was 74 x 10^-5 with the individual plant estimates being 73; 68; 80; 89; 66; 69; 80; 82; 89; 77; 74; 58; 67; 86; 59. These represent single estimates from each of 16 plants. In 1958 the mean frequency of tWX pollen grains from the same cross was 88 x 10^-5.

Sixty plants from the BC progeny were sampled. Of these 34 plants had a tWX frequency of less than 2 x 10^-5 (or 0 after correction for parental tWX frequency). For the remaining 26 plants the mean frequency of tWX was 89 x 10^-5 with the individual plant estimates being 98; 103; 75; 65; 107; 138 (125, 151); 57; 93; 87; 65 (51, 78); 89; 63; 74; 108; 87; 75; 63; 103; 115; 92; 68; 99; 114; 138 (143, 132); 70; 78. These figures represent single estimates for each plant with the exception of three which are an average of the estimates enclosed in parentheses. Some of the frequencies estimated for BC plants appear obviously to be outside the range of estimates for the F1 plants and may represent an effect of genetic background on this recombinational process.

Another backcross progeny (C x H21) x C has also been sampled. Here there were 37 plants of which 18 had a tWX frequency of less than 2 x 10^-5 while 19 plants had high frequencies.

The relative proportions of zero frequency (after correction for parental frequency) plants to high frequency plants in the two backcross progenies are not in disagreement with the ratio of 1 zero frequency plant: 1 high frequency plant expected if heterozygosity at the waxy locus were a prerequisite for the production of a high frequency of tWX pollen grains.