only the four common bases, then buoyant densities of 1.701 and 1.702 g/cm^3 have molar percentages of guanine and cytosine of 41.8 and 42.8, respectively.

The nuclear DNAs of corn, Tripsacum and their hybrids consisted of single main bands with no satellites, as revealed by the neutral CsCl analytical centrifugation technique. This has been characteristic of all the grasses thus far studied.

The nuclear DNA of Tripsacum is similar to corn and other grasses in that they all have relatively high buoyant densities and thus guanine + cytosine contents. In one case, the intergeneric cross of corn and Tripsacum was successful despite the fact that its two parents differed by 1% in guanine and cytosine content; the hybrid between the two different parents resembled the high parent, corn,in buoyant density.

C.S. Levings, III, and D.H. Timothy

A fast renaturing fraction of nuclear DNA of corn — When DNA is melted and then allowed to renature for a short period of time, a fast renaturing fraction of the total DNA can be isolated. Using this technique we have isolated and partially characterized a fast renaturing fraction of nuclear DNA (nDNA) of corn.

Nuclear DNA was isolated and purified as previously described (Shah and Levings, Crop Sci. 13:709-713, 1973). The DNA was sheared, melted at 100^{o}C for 10 minutes and then allowed to renature (Cot = 1). Single- and double-stranded DNAs were separated by hydroxyapatite chromatography. Buoyant densities were determined in neutral CsCl with Micrococcus luteus DNA as a marker on a Spinco model E analytical ultracentrifuge (technique described in previous reference).

Under the conditions of this study (Cot = 1), a fast renaturing fraction of corn nDNA has been isolated which comprises about 11% of the total nDNA. Neutral CsCl analytical ultracentrifugation of this fraction revealed a single band with no satellite and a buoyant density of 1.708 g/cm^3; since total nDna has a density of 1.702 g/cm^3, the fast renaturing fraction is richer in guanine and cytosine than the main band.

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"Normal"-appearing sugary alleles — As part of my studies of kernel carbohydrates, I am incorporating various sugary alleles into the W64A inbred. During backcrossing I have been able to identify self-pollinated ears segregating for su-am or su-66. Both alleles have near-normal phenotypes but have a translucent halo-

appearance near the top of the kernel. Selection of these kernels with subsequent crosses of the plants to su-Ref have verified this observation. I would appreciate receiving any other independently occurring near-normal or semi-full su alleles to include in my investigation.

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C loss associated with bz-x3m — In the 1974 Newsletter it was reported that on C bz-x3m/c Bz kernels (bz-x3m was formerly bz-x3), colorless sectors and C-c breakage-fusion-bridge patterns were observed. This instability has been transmitted in a number of cases. The highest frequency of variegated kernels obtained so far was from ear #3234, a product of self-pollination on which the following classes were observed: 108 purple; 45 purple with few colorless sectors; 16 purple-colorless BFB patterns; 75 bz-x3m patterns; and 79 colorless. Some of the colorless kernels represented loss of the C allele in one sperm cell only since the scutellum was purple.

The expected phenotypic ratio if no loss of C is occurring is 1 bz-x3m pattern: 2 purple:1 colorless. If in the experimental population the purple and purple-colorless classes are combined, a 1:2:1 ratio results. Thus, the mosaic kernels do represent loss of the C allele on the C bz-x3m homolog.

Numerous additional ears exhibiting C loss on a chromosome 9 carrying bz-x3m have been observed. BFB patterns of Bz - bz-x3m have not been recovered, indicating that breakage is occurring only in the chromosome carrying C bz-x3m and not in the homolog with c Bz.

These observations suggest that an element (receptor) similar to Ds has become attached to chromosome 9 distal to the C locus. This element is responding to the regulator of bz-x3m by causing chromosome breakage. It is possible that the putative receptor element was originally part of the regulator and transposed away from the bronze locus.

In the self-pollinated progeny cited above, the frequency of C-c variegated kernels does not reflect the frequency of breakage in chromosome 9. Some of the kernels are c c C in constitution, resulting from fertilization of a c egg by a C sperm, but others are C C c produced by the reciprocal fertilization. In the c c C kernels breakage of the homolog carrying C will result in C-c variegation; but in the other class if loss of one C allele occurs the second is still there to produce pigment. Although a reduction in color intensity would result due to the