derived from those in the C sh bz Wx class. Among the latter, two plants had received an unmodified fragment chromosome in addition to the structurally normal chromosome 9. It is of interest to note that the ratio of Bz to bz among the sh class of kernels in A of table 4 (22 : 111) is much the same as the ratio of these two phenotypes among the sh class that was obtained from heterozygotes (normal chromosome 9 with I Sh Bz wx/ deficient chromosome 9 with Sh Bz Wx/ fragment with C sh bz) when these were used as pollen parents in crosses to plants that were homozygous either for C, sh, bz, and wx, or for c, sh, bz, and wx. This ratio was 57 C sh Bz (6 Wx : 51 wx) to 206 C sh bz (27 Wx : 179 wx).

Barbara McClintock

CENTRO DI GENETICA DEL C. N. R.
Pavia, Italy
and
INSTITUTO DI GENETICA VEGETALE DELLA FACOLTA' DI AGRARIA
Piacenza, Italy

1. Defective endosperm factors from maize-teosinte derivatives.

Evidence is being accumulated that most of the defective endosperm factors from maize-teosinte derivatives are highly unstable. In several cases all sizes of kernels can be obtained from selfed de^t/de^t plant. In a few other types of de^t factors three distinct "states" seem easily distinguishable; besides the normal, a weak and an extreme defective class appear on the defective-segregating ear. At least a few de^t factors, when placed in a genetic background other than A158, seem to "recover." Apparently some genotypes "restore" de^t factors to De^t. Several de^t factors, which arose in different derivatives, turned out to be allelic, which, together with the instability, seems to support the hypothesis that the cause of such de^t factors could be of extragenic nature (in McClintock's sense). The factors de^t4, de^t5, de^t10, de^t11, de^t17, de^t18, de^t19, de^t23, de^t24 are probably identical or allelic; the same is possibly true for the series de^t13, de^t22, de^t26, de^t27, de^t29; and is well established for the series de^t14 and de^t20 (on chromosome 4).

2. Endosperm chimeras on ears segregating de^t factors.

Endosperm chimeras have been observed in derivatives of crosses to testers of the stocks showing the de^t factors. Their rate of appearance, when no teosinte segments are present, is unknown. The chimeras can be observed for characters whose genetic factors are carried by any chromosome, including the de^t carrier. Out of 17 chimeric kernels (12 Su-su, 3 De^t-de^t, 1 Pr-pr, 1 Wx-wx) 8 were found in ears segregating genetic.