Tests for the presence of Ac were performed using bz^{m-1}. From crosses of bz-x3, bz-x4 or bz-x5 heterozygotes with bz^{m-1} homozygotes, usable progeny were recovered only from bz-x3 crosses due to severe ear rot. Since the reversion patterns of bz^{m-1} and the bz-x alleles are quite distinct, there was no problem in distinguishing their respective activities. No kernels were observed with reversion patterns resembling that of bz^{m-1} indicating that Ac was not present in the bz-x3 stock.

Preliminary tests indicate that mutability of the bz-x alleles is either autonomous or due to a tightly linked regulating element. Distinction between these two alternatives and information on the nature of these systems await further tests.

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1. Variation in pollen grain size of inbred maize lines.

Pollen grain diameter was measured on a number of inbred maize lines in 1970 and 1971. The lines were agronomic stocks grown in the field at Brookings, South Dakota. Pollen collected in petri dishes throughout the day was stained with carmine and at least 50 grains measured for each sample. A total of 172 diploid lines were tested and significant differences among them detected. A frequency distribution is shown in Table 1. The distribution was quite normal with a median diameter of 0.0960 mm and a range of 0.0216 mm.

Similar measurements were obtained for five homozygous autotetraploid lines. Mean diameters of these lines ranged from a low of 0.1020 mm to a high of 0.1200 mm. Only one 4N line fell within the range of the diploids. The difference between diploid and tetraploid means was highly significant ($P<.01$). Differences among the five 4N means also were highly significant.

Banerjee and Barghoorn (Maize Genetics Coop. News Letter 45:244-245, 1971) reported that position of the flower on the tassel, size of

Table 1. Frequency of average pollen grain diameters of diploid maize lines.

Pollen diameter (mm)	Number of lines
.0840	1
.0864	3
.0888	11
.0912	32
.0936	41
.0960	44
.0984	22
.1008	15
.1032	2
.1056	1

the anthers, time of anthesis and anther dehiscence, and water deprivation cause variability in maize pollen grain size. Our system of bulk sampling of pollen by tapping the tassel over a petri dish made it impossible to test these factors. We did detect real differences among plants within inbred lines and among days of sampling of the same plants. These observed differences are assumed to be due to the biological factors listed by Banerjee and Barghoorn.

Simple correlation among the two year's data for the 10 lines most extensively sampled was r = 0.88**.

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1. Relative amounts of DNA in mouse sperm and maize spores at late telophase II.

Freshly dissected mouse sperm were suspended in .2M sucrose and air dried on microscope slides. Anthers containing maize spores at