This virescent expression of $\underline{V^m}$ mp-1817 is associated with an additional feature--namely, the severe etching of the seed. It was originally not recognized since it is only detected when the mutant is used as a female and all the original crosses were made using it as a male. It may be an expression of this same mutant since the etching has not been separable from the plant character in preliminary tests.

The frequency and size of stripes also vary and are similar to the patterns of the En system. In tests of $\underline{a}^{m(r)}$ seeds giving rise to mutable plants, it is evident from the non-mutability of the $\underline{a_1}^{m(r)}$ kernels that En is absent, suggesting that the mutable is not under the control of En, but rather of another mutable system.

Peter A. Peterson*

2. Maleic hydrazide-induced chromosome breakage and its relation to differing knob number.

The roots of germinating seedlings were treated with 10^{-3} m solutions of maleic hydrazide. The chromosome breakage measured indirectly by counting anaphase bridges was studied, utilizing differing knob numbers of 0, 4, 6, 7, 8, 12 and 24. Comparisons could be made between 2 lines containing identical knobs but different knob numbers by utilizing the homozygote and the heterozygote (derived by crossing the individual strains to knobless flint).

The results show that a direct relation does not exist between knob number and chromosome breakage. For example, two different strains with 12 knobs were compared. One homozygous strain had a breakage frequency of 34.8% while the heterozygote derived from another strain, also with 12 knobs, had a frequency of 22.1%. These values were significantly different at the 1% level.

It would seem that the strains themselves as well as the particular knobs involved are important in determining the frequency of chromosome breakage. When identical knobs could be compared, it was found that the expected difference in breakage frequency was not realized. This would suggest that strain differences such as their influence on the physiology of the cell would be a significant feature influencing chromosome breakage. Additional studies to analyze the determinants involved are in progress.

Mildred Rowley**
Peter A. Peterson*

*Currently on leave--Biological Sciences, Stanford University, Stanford, California.
**Undergraduate Participant, NSF URP.