

### 3. Flint studies.

For the separation, in segregating progenies, of kernels of greater degrees of flintiness from those with lesser degrees of flintiness, sugar solutions have proven convenient and effective. With a graded series of solutions, kernels with small differences in specific gravity can be separated readily.

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### 1. A new kind of brachyism.

A new kind of brachyism has been observed in certain stocks of the white inbred, Tx61M. This brachyism is different from any that the authors have seen before. It affects only the internodes above the ear. The striking phenomenon results in two or more leaves being abnormally close together, the number depending upon the degree of brachyism as well as a reduction in plant height.

Some plants have as many as seven leaves which give the general appearance of coming from the same node. This degree of the character gives a circular, bushy, arrangement of the leaves with the tassel sitting in the middle of the circle.

The authors prefer coining the word "brachyism" instead of using "brachysm" as given in the dictionary.

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### 2. Inheritance of variations between stocks of the same inbred line of maize.

Using the P<sub>1</sub>, P<sub>2</sub>, F<sub>1</sub>, F<sub>2</sub>, Bc<sub>1</sub>, and Bc<sub>2</sub>, significant differences between generations were obtained on four and eight variables considered on an individual plant basis for two different experiments involving three stocks of the same inbred line. Five of the variables which were considered on a plot basis also were affected significantly by generations.

Based on the Sewall Wright Method, the minimum number of genes differentiating the parents ranged from -1.76 for total number of leaves to +6.97 for plant height. Powers Partitioning Method was applied to the mode of inheritance for three characteristics in Experiment 1 and two characteristics in Experiment 2. The range in major genes or their equivalents differentiating the parents for any one characteristic under study was two to four pairs.

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