

1. Pollen volume -- style length relationship.

Cursory examination during the past several years of a number of morphologically extreme types of maize has suggested a possible relationship between size of pollen grain and style (silk) length. Mangelsdorf (News Letter, 1953) has also found that in Mexican maize, pollen size tends to be positively correlated with ear length. During the summer of 1951 two short silk varieties, Ladyfinger Pop corn and Zapalote chico of Mexico and two long silk varieties, Parkers Flint and J.H.L.E. (corn belt dent) were grown for purposes of studying this relationship. All measurements were made on fresh material at the time tassels were fully shedding and when silks had attained their maximum lengths. Pollen diameters, measured in arbitrary units with an eyepiece micrometer, were converted to volumes. Silks from the basal one inch of the ear only were measured. The summarized data are as follows:

| Varieties:          | <u>Z. chico</u> | <u>Ladyfinger</u> | <u>Parkers F.</u> | <u>J.H.L.E.</u> |
|---------------------|-----------------|-------------------|-------------------|-----------------|
| Pollen Vol. (means) | 953.11          | 1180.08           | 1285.48           | 1296.82         |
| Silk length (means) | 16.6 cm         | 15.7 cm           | 31.3 cm           | 34.3 cm         |

It is apparent that for these four varieties, those with long silks tend to have pollen grains of greater volume than do the short silk varieties. The fact that plants of Zapalote chico are considerably larger than either Ladyfinger or Parkers Flint suggests further that pollen size is not merely an expression of overall size differences in these varieties.