

## CORRELATION AND PATH COEFFICIENT STUDIES IN MAIZE

BY

El-Hosary\*, A.A.; Sedhom\*, S.A. and Mohamed\*\*, S.A.

\* Department of Agronomy, Faculty of Agriculture,  
Moshiohor, Zagazig University, Egypt.

\*\* Agricultural Research Center, Giza, Egypt.

### ABSTRACT

Two diallel sets (15 and 45  $F_1$  hybrids) were used in this work during two successive seasons 1985 and 1986 to estimate the correlation coefficients as well as path coefficient analysis to determine the direct and indirect effects of some characters contributing to the yield of maize.

Results indicated positive and significant correlations between grain yield per plant and each of number of kernels per row, number of rows per ear and 100-kernel weight, in the first set. Whereas, positive and highly significant correlations were obtained between grain yield per plant and each of number of kernels per row and number of rows per ear in the second set.

Weight of 100 kernels appeared to have the highest direct effect on grain yield in the first set, whereas, both number of kernels per row and number of rows per ear had the highest and positive direct effect on yield in the second set.

Also, results showed that the most important sources of variation for plant yield (71.63%) in the first set were: direct effect of 100-kernel weight, direct effect of number of rows per ear, and indirect effect of number of kernels per row through 100-kernel weight. In the second set of study, the main sources of variation (61.88%) were: Direct effect of number of rows per ear, direct effect of number of kernels per row, and the indirect effect of number of rows per ear via number of kernels per row.