

EFFECT OF N-LEVELS AND PLANT DENSITY  
ON YIELD AND SOME AGRONOMIC CHARACTERS  
IN MAIZE (Zea mays, L.)

BY

El-Hosary, A.A. and Salwau, M.I.M.

Fac. Agric., Moshtohor, Zagazig University.

ABSTRACT

Two field experiments were carried out during 1986 and 1987 seasons at the Research and Experimental station at Moshtohor. The aim of this investigation was to study the effect of nitrogen fertilizer levels, number of plants per hill and spacing between hills on some agronomic characters, yield and yield components of maize cultivar D.C. 202. The results could be summarized as follows:

All characters were affected significantly due to the N fertilizer rates except number of rows/ear and shelling percentage. The application of 45, 90 and 135 kg N/feddan resulted in increasing the percentage values of grain yield/feddan by 47.52, 72.73 and 80.73% over the control treatment.

The number of plants per hill had a significant effect on the number of ears/plant, number of kernels/row, 100-kernel weight and grain yield/plant. One plant per hill gave the maximum values for these characters.

The distance between hills had a significant effect on the stem diameter, number of ears/plant, number of kernels per row, 100-kernel weight and grain yield per plant.

The effect of the interaction between N-levels and number of plants per hill gave a significant effect on the number of kernels/row, 100-kernel weight, grain yield/plant and grain yield/feddan. While insignificant effect of interaction between N-levels and spacing between hills was found for all characters except stem diameter, number of kernels/row and 100-kernel weight. The differences between the averages of number of ears/plant, grain yield/plant, ear yield and grain yield per feddan were significant due to the interaction between number of plants per hill and spacing between hills. The interaction between N-levels, number of plants per hill and spacing between hills gave a significant effect on the number of kernels/row, grain yield/plant, ear and grain yield per feddan.