ABSTRACT

The present work was carried out to investigate the effect of farmyard manure (FYM) and nitrogen fertilizer on growth, yield and yield attributes of TWC 310 maize hybrid, grown at Demo Agriculture Experimental Farm of the Faculty of Agriculture, Fayoum University, Egypt were conducted during 2008 and 2009 seasons. Three FYM rates i.e. 15(M_1), 30(M_2) and 45 (M_3) m^3/fad. and three levels of nitrogen, i.e. 90 (N_1),120(N_2), and 150(N_3) kg/fad. of ammonium nitrate (33.5%) were examined. The field was laid out in a split-plot arrangement with four replications.

Results revealed increasing positive response of maize to FYM up to the largest amount of M_3 that seemed to be large enough to release N, throughout the growing seasons and produced the highest values of almost the studied traits.

Nitrogen application had a significant effect on all characters except ear length, number of row/ear and shelling% in second season only, intermediate mineral fertilizer (N_2) application produced the tallest plants and number of leaves at 60 days age, also plant height, with the highest ear position and heaviest ear weight, number of rows in two season and grain yield /fad. in second season. However N_3 resulted in superior values of other traits, with insignificant differences for ear length, ear weight, grain weight /ear, shelling% and grain yield /faddan of those of N_2 in second season. Grain yield produced with M_1, M_2 and M_3 of FYM applications were respectively comparable to those of N_1, N_2 and N_3 indicating that mineral fertilizer (N) could be replaced by FYM in such soil.