ABSTRACT

Two field experiments were carried out at Sids Agricultural Research Station, Beni-Swef Governorate in the seasons of 2005 and 2006. The aims of this investigation were to study the effect of nitrogen levels (0, 40, 80, 120 and 160 Kg N/fed) on grain yield (ard/fed) of Single Cross 10 (S.C 10) and to determine the response degree of grain yield to N fertilizer as well as to estimate the economic optimum N rate.

The highest grain yield (ard/fed) of the tested cultivar was produced by supplying 120 Kg N/fed in the two seasons. Quadratic model was the best of the tested models for describing the relationship between grain yield of maize hybrid to N fertilizer.

The economic optimum N rate (121.0 and 120.0 Kg N/fed) respectively for the two seasons (2005 and 2006). Grain yield produced by adding optimum N rate (26.15 and 25.38 ard/fed) respectively and net return £ E 1739.7/fed in the first season 2005 and £ E1623.7 /fed in the second season 2006.