



Research article

Effect of bio and mineral nitrogen fertilizer with different levels on growth, yield and quality of maize plants

Mona E. El- Azab* and Camilia Y. El-Dewiny

Soil and water Department, National Research Center, Dokki, Egypt.

Key words: maize, yield, bio-fertilizer, azotobacter, ammonium sulphate.

***Corresponding Author: Mona E. El-Azab,** Soil and water Department, National Research Center, Dokki, Egypt.

Abstract

A field experiment was conducted to evaluate the effect of nitrogen fertilizers sources as bio and mineral form on growth, yield and quality of corn. Ammonium sulphate fertilizer with 20% N (AS) was used as a mineral nitrogen source with 3 levels of application, where as azotobacter was a biological source of nitrogen used in 3 levels. Experiment was a factorial arrangement in complete randomized block design with 3 replicates. Corn plants cultivar Giza10 were fertilized with ammonium sulphate at levels: 50, 100 and 125 kg/fed and treatments of azotobacter at levels: 0, 5 and 10 Kg/fed. The results showed that application of bio-fertilizer with mineral nitrogen increased plant growth compared with mineral nitrogen alone. The highest values of plant height, leaf area, dry weight, yield components as ear weight, ear length, number of rows, weight of 100 grains, ear yield and weight of straw and chemical concentration in leaves and grains were obtained by the application of azotobater at 5Kg/fed with 100Kg/fed ammonium sulphate compared with other treatments.