ROLE OF LEAF NUTRITION BY MANGANES AND BORON IN WATER STREES FOR MAIZE (Zea mays L.)

1.Grain yield and water use efficiency.

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ABSTRACT

This experiment was conducted in field of Diyala Agricultural director in Baquba in spring season 2011 to study the water stress by using foliar application concentrations of each boron and Manganese on weight of 1000seed, Grain yield, protein content and WUE.

The experiment was designed as RCBD with three concentration of spraying (0,25,50)mgMn.L^{-1}added as Mn-EDTA(13%Mn) and used three Manganes concentration of spraying Boron (0,2,4) mgB.L^{-1} used Boric acid (17.4%B) and three period of irrigation after(25,50,75%) of available water . Folair fertilizer were applied at three time during of plant growth, to use Maize cultivar 5012 .

Results showed the following: weight of 1000seed, Grain yield, and WUE increased with the increase in Manganese and Boron concentrations The varieties differ significantly between Manganese levels and water stress levels in most of characters. weight of 1000seed increased with the interaction between water stress levels x Boron levels . Also the most of characters were significantly influenced by interaction between moisture levels x Manganese and boron concentrations . The use of nutrient application can improve plant performance under water stress and can be used as away to increase water use efficiency especially under water shortage conditions.

Key words : Mn-EDTA , Boric acid , WUE .