EFFECT OF MOISTURE AVAILABILITY AND SOME MICRO-NUTRIENTS ON VEGETATIVE GROWTH OF PROSOPIS CHILENSIS (MELINA) STUNTZ UNDER CONDITIONS OF SIWA OASIS

By

Hendawy , S,H. and EL- Sayed ,A.KH

Plant ecology and Rang management Dept. Desert Research Center.

ABSTRACT

This study was conducted in the Desert Research Center (D.R.C.), Agricultural Experimental Station at Siwa for the two summer seasons of 2007 and 2008. Research was designed to find the effect of three different irrigation quantities (5 , 10 and 15 liter /tree) and four micro-elements (control , manganes sulfate 1% , zink sulfate 5% and manganes sulfate+zink sulfate) on the forage yield and quality of prosopis chilensis plants. Total forage yield of prosopis chilensis was much higher for plants, then micro-elements applied with significant differences where manganes sulfate+zink sulfate folier produced the highest forage. Irrigation quantities of 15 liter/tree produced the highest forage yield of prosopis plants over all of the 3 irrigation quantities. Planting prosopis chilensis was produced the tallest plant. Also, number of branches/tree was obtained when using the highest irrigation quantities (15 liter/tree) and manganese sulfate+zink sulfate application. The interaction between irrigation quantities of 10 liter/tree and manganese sulfate+zink sulfate the highest forage yield of prosopis chilensis plants . Planting prosopis chilensis in irrigation quantities of 10 liter/tree and manganes sulfate+zink sulfate produced the highest carbohydrate content of prosopis chilensis plants more ever planting in irrigation quantities 15 liter/tree. Crude fiber content of the leaves significantly decreased by all potassium and phosphorus application . Meanwhile, crude protein and ash content of the forage were not affected by 15 liter/tree but it was significant by manganese sulfate+zink sulfate treatment. **Key Words**: irrigation quantities, Micro-Elements, Forage Yield, Quality, Prosopis Chilensis Plants.