

GROWTH RESPONSE OF MESQUITE (PROSOPIS CHILENSIS (MELINA) STUNTZ TO FOLIAR APPLICATION OF PHOSPHORUS AND POTASSIUM UNDER SIWA OASIS CONDITIONS

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ABSTRACT

Two field experiments were carried out to study response of two foliar application [phosphorus (0, 1\2 liter and 3\4 liter of ortho phosphoric acid/feddan) and potassium (0, 3% and 6% potassium sulfate /feddan)] under saline condition at Siwa oasis, Western Desert of Egypt for two summer seasons of 2007 and 2008. Phosphorus fertilization levels caused a slight increase in the forage yield/shrubs. Applying either 3% or 6%k/feddan could be enough to produce high forage yield for prosopis chilensis through the two growing season. Whereas, the interaction effect of potassium and phosphorus fertilization was not significant on the obtained forage yield. Total carbohydrate content in leaves of prosopis chilensis had a significant increase by applying 3\4liter of ortho phosphoric acid/feddan as compared with control. Applying 6% and 3%k/feddan respectively significant by increased the total carbohydrate of the Phosphorus levels compared with the control treatment. Crude fiber content of the Phosphorus levels of the prosopis chilensis gradually decreased as potassium level increased from 0 to 3% up to 6%k/feddan. The effect of phosphorus crude fiber content of leaves had the same trend that of potassium as comparing with the control treatment.

Key Words: Phosphorus Fertilization, Potassium, Forage Yield, Prosopis chilensis