البحث الثالث

Mohamed Saber Ali, Darwish Sam Darwish, **Eman E. Belal** and Mohamed Abd El-Moneim Mohamed (May 2021). Comparative studies of the three nitrogen fertilizers forms as ammonium in sugar beet plants in salt-affected soils under Fayoum condition. Fayoum Journal of Agricultural Research and Development (FJARD). VOL. 35, NO. 2. PP.283-300.

دراسات مقارنة لثلاث اسمده نيتروجينية محتوية على النيتروجين في صورة أمونيوم على نبات بنجر السكر في الأراضي المتأثرة بالأملاح في محافظه الفيوم.

ملخص البحث باللغة الأنجليزية:

To study the effect of nitrogen sources and levels of nitrogen on productivity and quality of sugar beet cv. Gloria, a field experiment was carried out at Fayoum Experimental Farm (clay loam soil), Fayoum Governorate, Soils, Water and Environmental Research Institute, Agricultural Research Center, Egypt, in two successive seasons of 2016/2017 and 2017/2018. Two experiment trails were laid out in a split-plot design with three replications. The main plots were assigned with sources of nitrogen fertilizers (anhydrous ammonia, aqua ammonia and urea) and the sub-plots were arranged in the rates of nitrogen (60, 75 and 90 Kg N/fed). The results showed that anhydrous ammonia significantly increases and recorded the highest value for Chlorophyll A, B, Shoots and roots fresh and dry weight, nitrogen, phosphorus, potassium and sodium uptake and at 120 and 200 days from sowing and root length and volume, sucrose% and sugar yield/fed and the level of the nitrogen found that the addition of 90 kg N/fed gave the highest of Chlorophyll A, B, Shoots and roots fresh and dry weight, nitrogen, phosphorus, potassium and sodium uptake at 120 and 200 days from sowing and root length and volume, and sugar yield/fed. while the addition of 60 Kg N/fed was decreasing this value but was an increase of sucrose % in both seasons compared with other nitrogen sources or with untreated treatment. It can be recommended that injection of anhydrous ammonia to the soil at 90 Kg N/fed maximize sugar beet productivity and quality under the environmental conditions of clay loam soils. Also, an economic analysis was done. Data shows that the highest profit was recorded with anhydrous ammonia which applied with 90 Kg N/fed.