STUDYING SOME TECHNICAL INDICATORS EFFECT OF TWO MECHANICAL SEEDER ON TILLAGE SYSTEMS FOR FORAGE YIELDS OF BARLEY VARIETY SAMEER IN GYPSUM SOIL.

Shatha Majed Nafawa* Nasseam .AH. Hassan**

*Dept. of Agriculture Mechanization- Coll. of Agri.-Uni.Of Baghdad.

** Ministry of Agriculture nasseam_hassan@yahoo.com

ABSTRACT

A field experiment was carried out during the agricultural season2013 – 2014 in an agricultural field at Extensional Sheep Project – Agriculture directorate in Sallah Al-Deen governorate, 180 Km North West of Baghdad. The aim of this study was to investigate the possibility of using zero tillage system for forage growth and yield of barley in gypsum soils in comparison with some conventional tillage systems. The study consisted of two types of seeding drills (chisel and disk coulters), representing the first factor, and three plowing systems namely(zero-tillage, conventional plowing with chisel plow, and conventional plowing with disk harrow plow), representing the Second factor. A New Holland tractor TD-80, 4WD (80 Hp) along with fertile-seed drills was used as a machinery unit , and the experimental treatments were laid out under split plot system using randomized complete block design (RCBD) with three replicates on gypsum soil with texture of Sand loam , classified as Typic Torrifluvent. The least significant differences (LSD) at 0.05 alpha level was used to compare means of treatments. To investigate the main effects of the studied factors and their interactions, some technical performance indicators of machinery unit, such as slippage percentage , practical productivity, volume of disturbed soil, as well as yield weight of forage growth for the first cutting were measured or determined, and the data were presented in tables. Analysis of variance showed a significant effect for the interaction between type of seed drills and plowing systems. While disk seed drill under zero-tillage system gave lower volume of disturbed soil (320.000 m^3/h). Using chisel coulters seed drill under conventional chisel plowing system gave lower values for slippage percentage (3.661%), and higher practical productivity (0.6711 ha/h). while the same seed drill under zero-tillage system recorded higher yield of forage growth (17.33 t/ha) When the first cutting.

Key words: Zero – Tillage, Variety Sameer, Gypsum Soil.