

THE INTERACTIVE EFFECT OF ORGANIC FERTILIZER AND WATER STRESS ON SOME GROWTH PROPERTIES AND YIELD OF POTATO PLANTS.(*Solanum tuberosum* . L) .

Hameed. K.AL-Salmani

Bassim. R. AL-Bandawy

*Dept .of Soil Sci.&water Resources College of Agric – Univ. of Baghdad..

** Dept .of Soil Sci.&water Resources- College of Agric –Univ. of Diyala.

bassim .bader @yahoo.com

ABSTRACT

Field experiment was conducted during spring season 2012 in the Horticulture Department field- College of Agriculture - University of Baghdad in a silty clay loam soil , to study the effect of organic fertilizer (cow , sheep , poultry) manures mixed at a percent of (1:1:1:) after decomposition of these fertilizers .The added levels at 0 , 5 and 10 % (M0,M1 and M2 respectively of furrow size , and water stresses which were 550,450 and 350 mm (S1,S2 and S3) respectively on some vegetative growth parameters and yield Of potato .Randomized Complete Block Design was used at three replicates .Potato tubers were sown on 18 December 2012 .

Results showed that Two levels of organic fertilizers (5 and 10 %) increased all plant parameters significantly (plant high ,no of tillers per plant , dry weight yield ,leaf area and tuber yield) . While water stress at levels of 450 and 350 mm decreased all above parameters significantly. A best treatment which gave height value of plant parameters were the interaction between M2*S1 which gave 87.8 cm, 4.3 tiller. Plant⁻¹ , 5.690t.ha⁻¹ , 8397 cm² and 40.35 t.ha⁻¹ respectively.

Key words: organic matter ,water stress, Chemical physical properties, potato.