EFFECT OF APPLICATION METHODS OF THE HUMIC ACID AND PHOSPHORUS LEVELS AND SOME GROWTH PROPERTIES AND YIELD OF BARLEY (*Hordeum vulgare* L) .

Mohammed Obaid Saloom Al-Jumaily*
*Dept. of Soil Science and Water Resources- College of Agriculture, University of Anbar.

mohammedobaid640@yahoo.com

ABSTRACT

A factorial plastic pots experiment was conducted in Fallujah Region / Al-Anbar governorate in the season 2012-2013 To investigate the influence of application methods of the humic acid (control, soil application foliar application , and soil application+ foliar application **)** which extracted from wheat straw compost and phosphorus levels (control ,20,40) mg p. kg^{-1} soil on some properties of barley plants growth and yield in a silty loam soil, using (RCBD) design with three replication and treatment means were compared according to L.S.D. test at 5%.

Results showed that all application methods of the humic acid caused in a significant increases in most of parameters used and mix application (land+foliar) have surpass in plant height, straw yield, P uptake grain yield, fertilization efficiency (89.66 cm, 51.11, gm.$pot^{-1,}$ 184.1, mg.pot^{-1}, 17.25 gm.pot^{-1}, 36.8%) respectively. phosphorus levels caused a significant increases in all above parameters and the level 20 mg p kg^{-1}soil gave the highest results at the plant height, straw yield , (86.20 cm, 49.56, gm.pot^{-1}) respectively. While the level 20 mg p kg^{-1} soil achieved highest increase in P uptake , grain yield, and fertilization efficiency (183.2 mg.pot^{-1} 18.06 gm.pot^{-1} , 43.1%) respectively.

The interaction between the study factors were significant and the mix application method combined with the 20 mg p. kg^{-1}soil level achieved highest increase in plant height, and P absorption efficiency (90.37cm , 44.25%) respectively while the land application method combined with the same phosphate level achieved highest increase in straw yield (51.98 gm.pot^{-1}) the mix application method combined with the 40 mg p. kg^{-1}soil level achieved highest increase in P uptake, grain yield and fertilization efficiency (201.4 mg.pot^{-1}, 18.68 gm.pot^{-1} ,48.0%) respectively .

Keywords: humic acid, phosphorus levels, barley.