THE EFFECT OF INTERACTION BETWEEN MYCORRHIZA AND Aspergillus *niger* IN SUPPORTING PHOSPHOROUS ROCK PHOSPHATE IN WHEAT PLANT (*Triticum* aestivum *L*.) IN CALICEROUS SOIL .

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ABSTRACT

Pots factorial experiment of three factors was carried out ,using sterilized silty clay loam soil ,under RCBD. the experiment included (36) experimental units of a combination of bio- inoculate Mycorrhiza , *G.mosseae* , in two treatments [M_0]with out fertilization ,and [M_1] with fertilization ,and bio fertilizers consists of *A. niger* of two treatments [A_0] with out fertilization and [A_1] with fertilization , in one source of phosphorous , the rock phosphate three levels [P_0] with out fertilization , [P_1] application of full fertilizers recommendation of Rock phosphate , [P_2] double of the fertilizers recommendation of the rock phosphate , in three replicates . *A. niger* was isolated and diagnosed, using 2 fungal isolates in different areas (taji, abu ghraib) the most efficient isolate of solublizing phosphorous in rock phosphate in Martins Medium for fungi was chosen and used as bio fertilizer in the experiment . Mycorrhiza was collected from the (Ministry of science and Tecnology) that consists of (spores + infected mycorrhizal roots and dry soil) .

Results showed that there was a significant increase in plants heights ,shoots dry weight when bio fertilizers applied individually or as group . they showed highest values in the first period of growth (branching) when bio fertilizers applied in an interacted way (*G.mosseae* and *Aspergillus niger*) where values of plant heights were (14,15) cm and the dry weight of shoot system were (7.40,7.80) gm/pot when addition the equivalent recommendation of fertilizers and double recommendation of fertilizers of rock phosphate respectively . also, the application of fungal bio fertilizers individually and pairly led to a significant increase in the shoot system of phosphorous (0.2035,0.2218)% and phosphorous in soil (20.76,29.52)mg kg^{-1} . the highest values were in the first growth period (branching stage) when double bio fertilizers applied and addition equivalent recommendation of the fertilizers and double recommendation of fertilizers rock phosphate respectively ., wheat roots infection ratios were increased significantly when fungi available with same of (G.mosseae and *A. niger*) as compared to the application of Mycorrhiza individually ,while results showed a decrease in the infection ratio in wheat plants roots when recommendation and double recommendation of rock phosphate application .

Key Words : Mycorrhiza , *Aspergillus niger* , Rock Phosphate , Wheat , Calicerous Soil .