The effect of some animal manures and Bio formulation of *Trichoderma viride* in control of *Fusarium solani* the causal agent of pumpkin root rot disease and evaluation the active ingredients using GC-Mas technigue

By

Shatha Fadel Abdel Sayed Al-Daili

SUMMARY

The Present Study has been performed at The Labs. and fields of Agricultural college –university of Basra during The period between march to July of 2017 to evaluate The effect of animal manures and bio formulation of *Trichoderma viride* in control of *Fusarium solani* The causal agent of pumpkin root rot disease , as well as The identification of active ingredients using Gc-Mas.

Results showed the isolation and identification of diseased plant the accurence of *F. solani* in all samples.

Rot's experiment revealed that the treatments of animal manures and bio formulation (*T.viride*) against the fungal pathogen *(F. solani*) led to decrease the disease severity from 63.88 % in disease treatment to 17.04% in abose combination , additionally, the plant height at TvM1M2 and TvM1 treatment were 58.66 and 55.66 cm, respectively with a significant difference than control treatment which was 36.66 cm (in non-contaminated soil) . Similar trend of results was observed in fresh weight which were 50.82 and 47.83 gm in control plants.

Field experiments showed that the severity of *F.solani* was 15.42 and 22.29 % in TvM1M2 and TvM1,respectively ,compared to 75% in control treatment. the highest average of height was observed at TvM1M2 which was 272.17 cm .TvM1M2 and TVM1 treatments reported the highest average of shoot system fresh weight which were 365.83 and 350. 99gm, respectively , compared to 293.33 gm in control ones .

Gc-Mas technigue revealed that the treatment of TvM1M2 contairs

(1−(+) –Ascorbic acid 2,6− dihexadecanoate, Dichloroacetic acid,tridec−2−ynyl ester, Stigmasterol, .gamma.−Sitosterol) , while the treatment of Tv and TvM1 and TvM2 contair (٢ H−1− Benzopyran−6−ol,3,4−dihydro−2,8−dimethy1−2−(4,8,12−trimethy ltridecyl)−,[2R−2], 1,3−Propanediol,2−ethy1−2−(hydroxymethyl)− Phytol, Olean−12− en−28−oic acid, 2.beta.,23−trihydroxy−,methyl ester) respectively.