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EFFECT OF SOMP BIOCONTROL AGENTS AND ANTIOXIDANTS ON ROOT-ROT DISEASE OF CUCUMBER

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ABSTRACT

Root-rot disease is considered a problem on cucumber plants in Egypt. It was caused by *Fusarium solani*, *Macrophomina phaseolina*, *Pythium ultimum*, *Fusarium oxysporum* and *Rhizoctonia solani*. The biocontrol agents (*Trichoderma harzianum*, *Trichoderma hamatum* and *Trichoderma vireidi*), antioxidants (cetric acid and salicylic acid) and fungicide (Rizolex-T) as reference were applied in this study. were tested for their effect on root-rot pathogens. They reduced the linear growth of the causal organisms *in vitro* and Rizolex-T gave the highest effect in reducing the linear growth of different pathogens. All treatments controlled significantly the root-rot diseases and indicated the effectiveness of the different treatments compared to the check treatment under greenhouse conditions. The most effective treatment was obtained by the fungicide followed by *Trichoderma harzianum* and salicylic acid. Application of biogents and antioxidants and or the fungicide reduced the root rot incidence accompanied by high amount of free phenols and reducing sugars which were higher in the treated plants under field conditions. Agronomic characters *i.e.* plant height, disease severity and average yield (kg / plat) were determined during growth seasons.

Key words: antioxidants, biocontrol agents, Cucumber, phenolic compounds and reducing and non- reducing sugars. root-rot disease,