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Biological Control of Alternaria solani, the Causal Agent of Early Blight of Tomato

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Abstract

In this lecture I will introduce a report about my study entitled " Effect of the new antagonist Aspergillus piperis on germination and growth of tomato plant and early blight incidence caused by Alternaria solani". The present work is considered the first record of studying the ability of the new antagonist, Aspergillus piperis in decreasing the disease incidence of early blight of tomato plant caused by Alternaria solani. The pathogen A. solani was isolated from naturally diseased tomato fruits and identified genetically by sequencing of rRNA gene using ITS1 and ITS4 primers. For the field experiment, the toxicity of spore suspension of A. piperis on germination of tomato seeds was performed using soaking and irrigation methods where the germination percentage and vigor index were calculated. The results indicated that the irrigation method recorded better results than soaking where the germination percentage was 81.81 % and vigor index was 794.37 related to that of control which recorded 90.9% and 715.83 respectively. The values of vigor index indicated that, the spore suspension of A. piperis had induced the plant growth. In the meantime, the spore suspension of A. piperis was applied on tomato leaflets by several methods to reduce the incidence of early blight disease. The application of A. piperis spore suspension directly on the leaflets exhibited the best result where the percentage of infection was 10.25 % to the control (25 %) after 4 days.

Biography

Samah Abd El-Kader El-Debaiky works as an Assistant Professor of Microbiology (Mycology) in Botany Department, Faculty of Science, Tanta University since 24-11-2013. She has participated in 5 local conferences interested with biological science and 9 workshops in field of mycology. She also, has been serving as an editorial board member of two international journals.

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