Abstract

Tomato with the scientific name of Lycopersicum esculentum Miller belongs to the solanaceae. on of the most important,tomato soil-borne diseases that are spreading around the world, damping of and wilt is caused by *Fusarium oxysporium* f.sp. *Lycopersici* and *Alternaria alternata.*in this study, the synergic effect nano silver particles, titanium and exrtracts of Eucalyptus, Rosemary on *Fusarium oxysporium* f.sp *Lycopersici*a and *Alternaria alternata.*were exmyned under laboratory and green house condition. The results in Vitro for determine most effects concentration of every treatment showed nano silver 30 ppm density, Titanium and silver 1-15 ppm, silver and Rosemary 15-500 ppm, silver and Eucalyptus 40-50 ppm, Titanium and Rosemary 3-1000 ppm, Titanium and eucalyptus 3-150 ppm, Rosemary and Eucalyptus 750-100 ppm, on growing up *Fusarium oxysporum* f.sp. *Lycopersici* between applied treatments on Alternaria *alternata* had silver 40ppm, Rosemary 1000 ppm, Eucalyptus 150ppm, Titanium 2ppm density and treatments synergic of silver and Rosemary 15-500 ppm, silver and Titanium 2-30 ppm, silver and Eucalyptus (40-150)ppm, Titanium and Rosemary 3-1000 ppm, Titanium and Eucalyptus 3-150 ppm, Rosemary and eucalyptus 150-100 had most effect. After determination of density in this green house experiments after two week poulloution seedling in 4-6 leaves and apply treatments on index of chemical defense sush as chlorophyll a,b and total chlorophyll carotenoids, catalase and peroxidase enzyme apply in tissue of treated plants. The experiment done in 3 replication with 10 treatments. According to results in fusarium fungal, chlorophyll a with 23.8 measure, chlorophyll b 22.96, total chlorophyll 21.5, carotenoids 60.1, catalase 54.4, peroxidase 12.5 showed the most measure. That all were significant in groupe a. the results showed that between treatments and date of sampling and against effect in the treated and healthy and infected control plants there are significant difference. The amount of reviewed qulifaction are increas under the influence of treatments and date of sampling. This growth will effective in scales of plant defense compounds and decreas disease. Due to this suggested be used nano particles and plant extracts as chemical stiulus plant defense in safe control against of diseases.

Key worlds: Intraction, Nano particles, Secondary metabolites, Pathogens fungus

University of Zabol
Graduate school
Faculty of Agriculture
Departmant of Plant Protection

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Synergistic effects of silver nanoparticles of titanium, extracts of rosemary and eucalyptus on *Fusarium oxysporum* f.sp. *lycopersici* and *Alternaria alternata* in tomato

Supervisor

Dr. M. Salari

Advisors

Dr. N. Panjehkeh
Dr. S.K. Sabbagh

By

F. Ghanavati Behbahan

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