

Investigation on Bion[®] and some *Trichoderma* Isolates Effects Stimulation of Induced Resistance Against Leaf Rust in Wheat

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Abstract

The fungus *Puccinia recondita* is the cause of brown rust of wheat with the most effective. The plants have two answers immunology defense mechanisms on the part of their resistance are known as the induction of resistance that includes resistance and systemic acquired resistance induction is systemic. The biocontrol agents and chemicals can induce resistance instead of chemical pesticides to control of the disease. This review to study the effect Bion and species of *Trichoderma* in the induction of resistance in wheat concentrations 10, 100 and 1000 ppm Bion spore suspension culture fluid isolates by all *Trichoderma harzianum*, *Trichoderma citriniviride* and *Trichoderma longibrachiatum* in the two genotypes Chamran and Boolani half that figure, respectively resistant and susceptible to brown rust are both leaf and seed treatments were used.

This study was done in a completely randomized design with three replications at two levels of leaf and seed treatments. Data were worked out by analysis of variance (ANOVA) and differences among the means were determined for significance at $P < 0.01$ using Duncan's multiple range test (MSTATC software). *Trichoderma* species and reduce Bion brown ring without direct inhibition of germination Yuridiospore ringtones brown of the wheat plants activate resistance were induced. It also became clear that when Bion, *Trichoderma* and 4-3 hours before inoculation reduced disease pathogens can be used are determined and the application of *Trichoderma* seed and brown rust control Bion much more effective is the use of the leaf. Changes little for peroxidase activity Hemada and Kelin method using optical absorption at 470 nm wavelength was used. Liquid suspension cultures and *Trichoderma*

harzianum and Bion to 10 ppm concentration most influence on the disease controls had higher level of protection made possible.

Key Word: Brown Rust, Bion, Peroxidase, Induced Resistance



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The Thesis Submitted for M.Sc. Degree in Plant pathology

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February
2011