Research Article

Antagonistic Action of *Verticillium glaucum* Bonord. on Fungal Plant Pathogen

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Abstract

Biological control of pest and pathogens is one of the ecofriendly and effective approach towards plant disease management. Hence, search for novel biocontrol agents are necessary in disease control strategy. The objective of the present study was to evaluate the efficacy of *Verticillium glaucum*, a soil borne fungi for its biocontrol potential. The *in vitro* studies revealed *V. glaucum* effective against all tested fungal pathogens. Mycoparasitism and cell wall lysis was the sole mechanism in the inhibitory action, which was evident in hyphal interaction studies. Adhersion, formation of penetration peg, appressoria formation and condensation of cytoplasm were observed. Antibiosis was not evident. Cell wall lysis was mediated enzymatically through chitinase production. Chitinase activity was higher with *Rhizoctonia solani* cell wall chitin than colloidal chitin. Optimal activity was observed with chitin (1.5%), fructose (0.5%), sodium nitrate (0.3%), pH 3.5 at 25 C temperature. These results demonstrated the potential of *V. glaucum* as a promising biocontrol agent .

Key words: Biocontrol agent, chitinase, mycoparasitism, *Verticillium glaucum*

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