

IN VITRO EVALUATION OF RHIZOSPHERE MICROBIAL ANTAGONISTS AGAINST WILT PATHOGEN *FUSARIUM OXYSPORUM* IN CHILLI (*CAPSICUM ANNUUM* L.)

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Abstract: The indiscriminate use of highly hazardous chemical fungicides and pesticides in the process of disease management leading to serious threat to environment. Biological control represents a viable alternative to the use of chemical fungicides and it is considered to be a safe, effective and eco-friendly method for plant disease. The percent inhibition on the growth of the pathogen by the antagonist over control was calculated for every 24 hrs of inoculation up to seven days. The experimental data on 168 hr. of inoculation revealed that all the four rhizosphere antagonistic fungi inhibited the growth of the wilt pathogens at varying levels at a range of 16.19 to 84.14 per cent (Plate 1 and Table 1). Among which, RFA 2 showed the highest mycelial (84.14%) inhibition of pathogen followed by RFA 4 (75.84%) and RFA 1 (58.09%) where as among rhizospheric bacterial antagonists isolate RBA 1 which was identified as *B.subtilis* had shown highest inhibitory effect (64.14%) and out of two tested rhizospheric fluorescent pseudomonads RFP 1 has antagonistic effect against chilli wilt pathogen which inhibited 72.81 per cent of radial growth of the pathogen.

Keywords: Rhizospheric antagonists, Fusarium, Biocontrol, Chilli, Fluorescent pseudomonads

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