
**Isolation of Fungal Species with
Antagonistic Activity Against
Phytopathogenic Fungi
F. Oxysporum: A Study**

Isolation of Fungal Species with Antagonistic Activity Against Phytopathogenic Fungi *F. Oxysporum*: A Study

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Abstract

In concern with the hazards caused by different phytopathogens agriculture and to find a potential solution in direction to prevent attack of these diseases causing agents in order to improve quality and quantity of our food, the present study was focused on isolation of fungal species with antagonistic activity against phytopathogenic fungi *F. oxysporum* MTCC 4162 from soil samples. Antagonistic fungal species were also screened for production of cell wall degrading enzymes i.e., glucanase, chitinase and protease and improvement of enzyme productivity by optimizing pH, temperature, carbon source and nitrogen source of the potato dextrose agar media.

The results revealed that the rhizospheric soil was the potential source of novel antagonistic fungi and they can act as a potential bio control agent against phytopathogenic fungi. The growth inhibition of phytopathogenic fungi *F. oxysporum* MTCC 4162 by isolated fungi (*R. oryzae chrysogenum*, *A. fumigatus*, *A. flavus*, *A. niger*, *M. racemosus*, *C. lunata*, *A. alternata* and *F. equiseti*) revealed that they can control disease caused by test phytopathogen. Also the production of cell wall degrading mycolytic enzymes viz chitinase, protease and glucanase by all fungal species with different extent paved the way to further evaluate the mechanism of mycoparasitism caused by isolated species. Chemical fungicide has many drawbacks including the development of resistant pathogens and its application is toxic to soil microbes and animals. Hence, the isolated fungal species as biocontrol agents are an appropriate alternative to synthetic fungicides and this approach is ecologically friendly for the control of phytopathogen.

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