Research Article

Evaluation of Interactive Relationship Among Rice Fungal Pathogens with Special Reference to the Production of Extracellular Enzymes

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Abstract

A total of twelve (*Rhizoctonia solani*, *Curvularia lunata*, *Alternaria padwickii*, *Nigrospora oryzae*, *Sclerotium hydrophilum*, *Fusarium verticillioides*, *Fusarium* sp., *Rhizopus* sp., *Choanephora cucurbitarum*, *Acremonium* sp., SM-1 and SM-2) fungi were isolated from leaves and stem of rice (Swarna cultivar) plant. The present study was carried out to evaluate the antagonistic activity of rice fungus and to detect the new sources of extracellular enzymes from fungi to understand their functional role in the host. Among twelve fungi, only four namely, *S. hydrophilum, Rhizopus* sp., *Nigrospora oryzae* and *Fusarium* sp. showed more than 40 per cent antagonistic activity against rest of the isolated pathogens. The fungi, *Rhizopus* sp. and *S. hydrophilum,* are the most dominant antagonist interaction against another isolated fungus with having the highest total of 566.49 and 441.92 percentage inhibition respectively. *R. solani* and *Fusarium* sp. were positive for amylase, *S. hydrophilum* and *F. verticillioides* were positive in cellulase production, while *N. oryzae* and *S.hydrophilum* were positive for laccase production. *R. solani*, *C. lunata*, *A. padwickii*, *S. hydrophilum* and *Rhizopus* sp. were positive in pectinase production.

Key words: Extracellular enzyme, fungi, rice

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