405/D

Antimicrobial activity of *Rhizophus Stolonifer*

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Antibiotics producing microorganisms found in nature are not only useful in medicinal purposes but are very useful in agricultural disease management, enzyme production, etc. *Rhizophus* spp is one of the most common genera of fungi in soils and other natural habitat consisting of organic matter. *Trichoderma* was isolated from soil and characterized into different isolates based on colony, vegetative and reproductive characters. Antifungal and antibacterial activities of those isolates were studied against *Pythium ultinum*, *Rhizoctonia solani*, *Fusarium oxysporium*, *Bacillus* sp, *Escherichia coli*, *Pseudomonas* and *Streptococcus*. One of the isolates (Isolate no 5) showed marked effect on antimicrobial activity against *Rhizoctonia solani*, *Bacillus* sp and *Pseudomonas* sp and this isolate was identified as *Rhizophus stolonifer*. Further bioassays on fungal, bacterial, protozoan and nematode were done using the crude extracts of *Rhizophus stolonifer* in methanol and distilled water. Methanol extract exhibited antifungal activity whereas the water extract displayed antibacterial activity. The organism produces volatile and water soluble antibiotics and shows significant inhibition on the formation of sclerotia of *Rhizoctonia solani*. Antiprotozoan activity was also observed but there was no effect on the motility of nematode. This organism also produced the enzyme amylase which is widely used in the food industry. In order to use the antibiotic compounds and enzymes in this extract, they will have to be purified and the characteristics and mode of inhibition should be further studied.

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