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# *Trichoderma spp.* as an agent with bifold behaviour towards Plants: At times, an infectious fungi or else antagonist to the other infectious fungi

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## Abstract

The worldwide increase in both environmental damage and human population pressure has had the unfortunate consequence that global food production may soon become insufficient to feed the entire world's people. It is therefore essential that agricultural productivity should be significantly increased within the next few decades. To this end, agricultural practice is moving towards a more sustainable and environmentally friendly approach to overcome the loss that is caused by some natural causes or infection to crops. Trichoderma colonize and penetrate plant root tissues and initiate a series of morphological and biochemical changes in the plant and considered to be part of the plant's defence response, which finally leads induced systemic resistance (ISR) in the entire plant. Trichoderma hyphae would induce different types of signals transmitted within the plant e.g., by salicylic acid (SA), jasmonic acid (JA) or reactive oxygen species (ROS), which would trigger the expression of defence proteins. As a result of gene activation, the plant produces enzymes involved in direct suppression of pathogens and enhancing the biochemical and structural barriers in plant organisms. The use of *Trichoderma spp.* has been well-known currently in the field of environment and agriculture. Trichoderma spp. is recognized as a multidimensional benefiter of plants as they can produce phytohormones, mineralization, bio control agents etc., Thus *Trichoderma spp.* is important if we are to ensure a healthy future for the generations to come.

## Biography

Dhavalkumar Patel has completed his wetland work for his PhD and will soon be defending his thesis. His research involves studies on various soil borne fungi for their traits to act as plant growth promoting fungi or as phyto-pathogen. His research also deals with studying various fungal enzymes and secondary metabolites. He has been awarded as the Young Scientist in 2018 at Rome, Italy where he has also delivered a talk at 'World Congress on Applied Microbiology'. He has also published his research in several papers in highly reputed journals and books.


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