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Studies on substrate evaluation for mass multiplication of *Trichoderma* spp. and their plant growth promotion activity in tomato

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ABSTRACT

The use of micro-organisms that antagonize plant pathogens (biological control) is risk-free when it results in enhancement of resident antagonists and with additional benefit, when it provides the plant growth promotion activity. Ninety per cent of such applications have been carried out with different strains of *Trichoderma* which have long been recognized as agents for the control of plant disease and for their ability to increase plant growth and development. Due to their antifungal and plant growth promotion properties, many *Trichoderma* spp. like *T. asperellum, T. atroviride, T. harzianum, T. hamatum, T. koningii, T. virens* and *T. viride* are widely used for biocontrol of plant diseases incited by fungal pathogens. In the present investigation, a set of 5 local isolates of *Trichoderma harzianum* from Madhya Pradesh were used for evaluating their plant growth promotion potential in tomato and it was observed that isolates were having differential inborn capability to provide growth promotion when supplemented as seed and seedling treatment. With the aim of development of commercial formulation for direct use by farmers, five small millet substrates were used and it was observed that barnyard millet maximum supported the colonization of *Trichoderma* spp. and served as economic source for its multiplication to develop commercial formulation under laboratory conditions.

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