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**Abstract:** Tomato, brinjal and chilli are the important vegetable crops grown all over the world. The crops are affected by a large number of diseases caused by various microorganisms which cause substantial economic losses in yield. Seedling diseases also contribute a major share in yield loss. Since, these diseases are soil borne in nature, they are very difficult to control by chemical fungicides. These diseases can be effectively managed by either incorporating organic amendment or by introducing antagonists in the soil through different delivery systems. But, performance of antagonists varies in changing soil conditions. Keeping these points in view, the rhizosphere soils of chillies, brinjal and tomato were processed for isolation and purification of fungal antagonists and their efficacy and growth promotion potential were also evaluated so as to fit the local soil conditions. Result clearly revealed that rhizosphere soils of chilli contained highest cfu of fungal population ( $27.7 \times 10^4$  g<sup>-1</sup> soil). Similarly, in case of bacteria and actinomycetes, the highest cfu were recorded  $29.3 \times 10^7$  and  $12.3 \times 10^3$ , respectively from chilli rhizosphere. Fungal antagonists recovered from rhizosphere soils on further examination confirmed as *Trichoderma harzianum*. The isolates of *T. harzianum* were designated as Tc for chilli, Tb for brinjal and Tt for tomato. Observation in dual culture after 24 hours revealed that *T. harzianum* (Tc) grew maximum (42.0 mm) followed by *T. harzianum* (Tb) (34.0 mm). In antagonism study, *T. harzianum* (Tc) parasitized the test fungi earliest. The growth behaviour of Pantnagar isolate of *T. harzianum* was at par with Tc. Tolerance study revealed that all the three antagonists were sensitive to Carbendazim and tolerant to TMTD (Thiram). Bioassay of fungicides against the test pathogens indicated that Carbendazim completely inhibited the growth of *Fusarium*, *Pythium* and *Rhizoctonia* sp. Seed treatment and foliar spray of *T. harzianum* (Tc) showed minimum damping-off and wilt incidence in chilli, brinjal and tomato and provided 70-80 per cent control against the diseases. The Pantnagar isolate of *T. harzianum* was at par with Tc in disease suppression. But, the commercial formulations like 'Sparsh' and 'Nisarg' were less effective in providing protection against the diseases. These antagonists were also evaluated in respect of their growth promotion parameters like seed germination, root and shoot length and fresh and dry weight. When the seeds were subjected to seed treatment and seedling foliar spray in tomato, chilli and brinjal, there was marked increment in germination, root and shoot length and fresh and dry weight in *T. harzianum* (Tc) followed by Pantnagar isolate of *T. harzianum*.

**Description:** EFFICACY OF FUNGAL ANTAGONISTS AGAINST SOME SOIL-BORNE PATHOGENS

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