

# ***In vitro* Screening of Fungicides against Soil Borne Pathogens in Tomato**

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**Abstract**—Tomato damping off incited by *P. debaryanum*, *R. solani* and *S. rolfsii*. is one of the most important and destructive disease of tomato, which can cause mortality upto 90% (pre -emergence seed rot and post emergence seedling mortality). Being soil borne are very difficult to manage with fungicides alone and also uneconomical. Therefore, the present in vitro studies were undertaken to test bioefficacy of the ten fungicides against *P. debaryanum*, *R. solani* and *S. rolfsii*. The experiments were designed with CRD and all the treatments replicated thrice. Results reveal that all the fungicides tested were found effective and were fungistatic against the test pathogens and significantly inhibited its growth over untreated control. Of the fungicides tested, Propiconazole, Tebuconazole + Trifloxystrobin, Metiram + Pyraclostrobin, Captan + Hexaconazole, Thiram, Metalaxyl against *Pythium debaryanum* Tebuconazole + Trifloxystrobin, Propiconazole, Captan + Hexaconazole and Carbendazim against *R. solani* Mancozeb, Tebuconazole + Trifloxystrobin, Metiram + Pyraclostrobin, Cymoxanil + Mancozeb, Propiconazole, Captan + Hexaconazole against *S. rolfsii* showed cent per cent inhibition (100.0 per cent) at recommended and half the recommended dosage under in vitro condition. Results reveals that fungicides tested were the most effective treatment which could be practiced on large scale for management of damping off disease in tomato and other solanaceous vegetable crops.

**Keywords:** *Pythium debaryanum*, *Rhizoctonia solani*, *Sclerotium Rolfsii*, Damping off, and fungicides.