

RESEARCH PAPER

Biological control of onion basal rot caused by *Fusarium oxysporum* f. sp. *cepae*

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Basal rot disease of onion is caused by *Fusarium oxysporum* Schlechtend: Fr. f. sp. *cepae* (Hans.). Biocontrol agents were isolated from the rhizosphere soil of onion cultivated in different places of Tamil Nadu, India. Efficacy of various biocontrol agents was evaluated for the potential to manage the basal rot of onion *in vitro*. Among the tested isolates of *Trichoderma* sp., *T. harzianum* (TH 3) gave the greatest (83%) inhibition and *Pseudomonas* sp. (Pf 12) exerted significantly the greatest (75%) reduction of mycelial growth of *F. oxysporum* f. sp. *cepae*. Based on the laboratory analysis, effective biocontrol agents were evaluated in glass house and field conditions. Among the thirteen treatments tested in the field, the combination of bacterial and fungal biocontrol agents (Pf12 +Pf27+ TH3) gave significantly the greatest (85%) disease reduction. These biocontrol agents were useful as an alternative to chemical control of the onion basal rot and to enhanced growth and yield of onion.

Key words : *Fusarium oxysporum*. f. sp. *cepae*, Onion basal rot, *Pseudomonas* sp., *Trichoderma* sp

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