Research Paper :

Antifungal activity of *Trichoderma* spp. against *Alternaria lini* responsible for bud blight of linseed

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SUMMARY

Linseed blight caused by *Alternaria lini* is an economically important and major disease of linseed. Isolates of *A. lini* were collected from different linseed growing areas of Vidarbha and were tested by using culture filtrates of four species of *Trichoderma* on the basis of mycelial growth, spore germination and sporulation behaviour. The ten isolates showed less variation in per cent inhibition of mycelial growth, spore germination and sporulation behaviour. The maximum inhibition in mycelial growth was observed with 10% concentration of culture filtrate. Among four species of *Trichoderma, T. hamatum* inhibited 38.46% radial mycelial growth whereas *T. viride* showed 78.38% and 82.20% inhibition sporulation intensity and spore germination, respectively.

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Alternaria blight caused by *Alternaria lini* Dey is a serious disease of linseed causing losses to the extent of 28-60 per cent. The disease appears from seedling stage to seed setting stage (Chaudhary and Srivastava, 1975) and the losses are found with the increased disease intensity where it appears on bud forming stage as a bud blight. In Maharashtra, the disease appears almost every year on the linseed crop grown, where 10 to 25 per cent incidence of linseed blight was recorded (Anonymous, 2007). Being a devastating disease of linseed, Alternaria blight causes heavy losses and oil per cent is also reduced which is having commercial value (Kolte and Fitt, 1997). Due to the conventional and continuous use of fungicides, the resistance and residue problem were developing in the pathogen. Looking at this problem, it is necessary to find out new areas for strengthening the management of this pathogen like use of bioagents. Therefore, the present study was taken for eco-friendly management of the disease.

MATERIALS AND METHODS

The present investigation was carried out *in vitro* condition of Department of Plant Pathology, PGI, Dr. PDKV, Akola during 2007-2008. The experiment was done by using culture filtrates of 4 bioagents *viz.*, *Trichoderma hamatum, T. harzianum, T. virens and T. viride* against 10 isolates of *A. lini*.

Preparation of culture filtrates:

Bioagents were grown in 150 ml Potato dextrose broth in 250ml conical flask for 20 days. The broth of bioagents culture containing mycelium and spores were filtered through Whatman filter paper No.4, were centrifuged at 5000 rpm for 10 min. to collect cell free supernatant. Considering the supernatant as 100% concentration was used in poisoned food technique at 10% concentration. (Mane and Pal, 2008).

Effect of radial mycelial growth:

Ten isolates of the *A. lini* were used to study the antifungal activity of bioagents by poisoned food technique. The PDA added with 10% of culture filtrates separately poured in Petri plates and after solidification the plates