RESEARCH PAPER

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Evaluation of culture filtrates of non-pathogenic isolates on mycelial growth and sporulation on pathogenic isolates of *Alternaria lini*

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Blight of linseed caused by *Alternaria lini* is most important disease in linseed grown areas of Vidarbha. From 22 different isolates of *A. lini* collected from the AICRP (Linseed) Nagpur, 10 were found pathogenic and 12 were non pathogenic. The effects of these 12 non pathogenic isolates were evaluated by poisoned food technique against the 10 pathogenic isolates on the basis of radial mycelial growth, sporulation inhibition and spore germination by hanging drop method. From the study it was observed that the non pathogenic isolate ANP-4 had shown maximum fungistatic potential with an average of 77.74 per cent mycelial growth inhibition. However, antisporulant properties of all the treatments showed significant results over control but among that the treatment ANP-6 had given maximum reduction in sporulation (77.64 per cent) whereas maximum spore reduction (79.74 per cent) was observed in ANP-4 treatment.

Key words : linseed , Alternaria blight, Biological management, *Alternaria lini*

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INTRODUCTION

Alternaria blight of linseed caused by *Alternaria lini* is a serious disease causing losses to the extent of 28-60 per cent. The disease appear from seedling stage to seed setting stage (Chaudhary and Srivastava,1975) and losses appears on bud forming stage as a bud blight. Fifteen to thirty per cent incidence of linseed blight was also recorded in the experimental fields of Agriculture College, Nagpur and on farmers fields (Annonymous, 2007). In Maharashtra, the disease appear almost every year on the linseed crop grown in the tune of 10 to 25 per cent (Anonymous, 2007). 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 non pathogenic isolates of *Alternaria* against predominant pathogenic isolates of *Alternaria*. Therefore, the present study was undertaken for ecofriendly management of the disease.

RESEARCH METHODOLOGY

The present investigation was carried out in the laboratory of Dept. of Plant Pathology, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during 2007-2008. The experiment was done by using 12 non pathogenic isolates of *Alternaria* spp. culture filtrates. *viz.,* ANP-1, ANP-2, ANP-3, ANP-4, ANP-5, ANP-6, ANP-7, ANP-8, ANP-9, ANP-10, ANP-11 and ANP-12 against 10 pathogenic isolates of *Alternaria lini.*

Preparation of culture filtrates :

To prepare the culture filtrates of 12 non pathogenic isolates of *Alternaria* spp. ANP-1 to ANP-12, the isolates were grown in 150 ml of Potato dextrose broth (PDB) in 250 ml conical flask for 20 days. The broth containing mycelium and spores were filtered through Whatman filter paper No. 4 and were centrifuged at 5000 rpm for 10 min. to collect cell free supernatant and was considered 100 per cent concentration for poisoned food technique as 10 per cent concentrations (Mane and Pal, 2008).