

In vitro evaluation of fungicide and biocontrol agents against *Alternaria helianthi* causing leaf blight of sunflower (*Helianthus annuus* L.)

■ K. ATHIRA

Department of Plant Pathology, Vanavarayar Institute of Agriculture, Manakkadavu, POLLACHI (T.N.) INDIA

ARTICLE INFO

Received : 01.07.2017
Revised : 20.08.2017
Accepted : 02.09.2017

KEY WORDS :

Pseudomonas, *A. helianthi*,
Poison food technique,
Sunflower, Mancozeb

ABSTRACT

Leaf blight caused by *Alternaria helianthi* is one of the major diseases of sunflower worldwide. It is responsible for causing upto 10-15 per cent yield losses in sunflower. In this study, antagonistic effects of *Pseudomonas* and *Trichoderma* isolated from rhizosphere of sunflower were evaluated against *Alternaria helianthi* as potential biocontrol agents *in vitro*. Fungal inhibition tests were performed using dual plate culture technique. Overall the culture of *Pseudomonas* showed the maximum inhibition of 77 per cent on the growth of *A. helianthi* followed by *Trichoderma*. Fungicide Dithane M-45 (Mancozeb) was used at three different concentrations of 0.01, 0.05 and 0.1 ppm in inhibiting the radial growth of *A. helianthi* by poison food technique. All the three concentrations of Mancozeb inhibited the radial growth. Among them, Carbendazim at 0.1 ppm was found to be the most effective against the pathogen. The growth parameters (plant height, root length and shoot length) were significantly increased by treating the seeds with bio control agent *Pseudomonas* compared to the untreated control. Results indicate that PGPR improve growth parameters and can also help in the biocontrol of pathogen.

How to view point the article : Athira, K. (2017). *In vitro* evaluation of fungicide and biocontrol agents against *Alternaria helianthi* causing leaf blight of sunflower (*Helianthus annuus* L.). *Internat. J. Plant Protec.*, 10(2) : 333-338, DOI : 10.15740/HAS/IJPP/10.2/333-338.

Email : athirakk@gmail.com