INTEGRATED MANAGEMENT OF WILT OF CHICKPEA INCITED BY *FUSARIUM OXYSPORUM* F. SP. *CICERIS*

K. Arunodhayam*[1], N.P. Eswara Reddy[1] and B.V. Bhasakara Reddy[2]

[1]Department of Plant Pathology, S.V. Agricultural College, ANGRAU, Tirupati, India.
[2]Regional Agricultural Research Station, Tirupati, India
Email: karunodayam@gmail.com

Received-03.09.2015, Revised-12.09.2015

Abstract: Bacterial and fungal bioagents were isolated from soil sample collected from rhizosphere of healthy chickpea plant in a wilt affected field. In dual culture studies among 11 fungal isolates CPF-1was found most effective with 88.60 per cent of inhibition and among the 24 bacterial isolates, CPB-10 showed 87.34 per cent inhibition of mycelia growth of *Fusarium oxysporum* f. sp. *ciceris*. By studying morphological and cultural characters CPF-1 was identified as *Trichoderma viridae* and CPB-10 as *Pseudomonas fluorescence*. Among different fungicides evaluated mancozeb was found compatible with both CPB-10 and CPF-1. CPB-10 and CPF-1 were also found compatible among themselves.The potential bacterial bioagent (CPB-10) and potential fungal bioagent (CPF-1), compatible fungicide mancozeb (0.2%), neem cake, vermicompost and farm yard manure was selected for integrated management of *Fusarium oxysporum* f. sp. *ciceris* under pot culture. Among the fifteen treatments imposed, treatment T12 (soil application of biocontrol agents + soil application of neem cake) was found to be superior as it recorded the least PDI of 20.46 per cent, Maximum shoot length (24.60 cm), Maximum root length (8.82cm), maximum shoot dry weight (0.30 g) and Maximum root dry weight (0.09g).

Keywords: Antagonists, Fungicidal compatible, *Fusrium oxysporum* f. sp. *Ciceris*, Integrated disease management

REFERENCES

Ayyub, M.A. (2001). Evaluation of Chickpea Germplasm, Fungitoxicants, Organic and Inorganic Materials for the Management of Wilt (*F. oxysporum* f. sp. *ciceris*). *Ph.D thesis*, University of Agriculture, Faisalabad, Pakistan.

Gomez, K.A and Gomez, A.A. (1984). *Statistical procedures for agricultural research* (second edition). Jhon Wiley and Sons, New York.

Indiastat.www.indiastat.com.

Singh, R.S and Alabouvette, C. (2007). Antagonistic activity of selected isolates of fluorescent *Pseudomonas* against *Fusarium oxysporum* f. sp. *ciceris*. *Asian Journal of Plant Sciences*. 6 (3): 446-454.

Vidyasekaran, P and Muthamilan. (1995). Development of formulations of *Pseudomonas fluorescens* for control of chickpea wilt. *Plant Disease*. 79: 782-786.

*Corresponding Author