



RESEARCH ARTICLE

# Survey of root diseases of chickpea in Jalana district of Marathwada region

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## ABSTRACT

A field survey was conducted during 2008-2009, which revealed 5.53 to 11.69 per cent wilt disease in Jalana district of Marathwada region. Survey and surveillance of chickpea wilt in the Jalana district revealed average wilt complex to the tune of 8.43 per cent. Tahsil survey report indicated maximum wilt increase in tahsil Partur (11.69%) followed by Ghansawangi (10.31%), Jalana (10.22%) Bhokardan (9.91 %) Badanapur (7.10%), Ambad (6.77%), Mantha (6.15%) and Jafarabad (5.53%). Further study indicated that *Fusarium oxysporum* f.sp. *ciceri* was associated in majority of cases, pathogen was isolated, purified and its pathogenicity was proved in plastic cup pot. On the basis of morphological, cultural characteristics of pathogen and symptomatology, the fungal pathogen was identified as *a Fusarium oxysporium* f.sp. *ciceri*.

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## INTRODUCTION

Chickpea (*Cicer arietinum* L.) is one of the important Rabi grain legume cultivated over an area of 4.01 lakh per hectare with the production of 3.11 lakhs tones in Marathwada (Anonymous, 2010). The chickpea wilt caused by *Fusarium oxysporium* f.sp. *ciceri* (Padwick) Snyd. and Hans. is wide spreading almost all the chickpea growing region in the state. The fungus is soil and seed borne and survives in soil in the absence of host or at least 6 year (Haware *et al.* 1986 a and b) causing losses up to 100 per cent. There is an increasing trend in occurrence of the disease in the state due to cultivation of chickpea under irrigated conditions. Considering the nature of damage and survival ability of the fungus, use of resistant varieties is the only economical and practical solution. Most of the resistant varieties have been found to be susceptible after some years because of breakdown in their resistance and evolution of variability in pathogen. Considering the variable types of the wilt reactions of released variety in the farmers field and sick plot

at different locations and yield losses caused, the present investigation was undertaken to find out the major causal organisms involved in chickpea wilt complex in Marathwada region of Maharashtra state. Survey and surveillance of chickpea wilt complex incidence of farmer's field was made and collection. isolation, purification and pathogenicity of wilt pathogen were done accordingly.

## MATERIALS AND METHODS

### Survey and surveillance :

A roving survey of chickpea fields was conducted in tahsils *viz.*, Jalana, Mantha, Partur, Ambad, Ghansawangi, Badanapur, Bhokardan and Jafarabad of Jalana district during the month of December to record the occurrence and distribution of chickpea wilt. On an average, ten farmers' fields of chickpea in each tahsil were visited and the per cent wilt incidence was recorded. Chickpea plants showing typical wilt symptoms were collected in separate paper bag and brought to the laboratory for further investigations.