Research Article

Analysis of Indian Isolates of *Fusarium oxysporum* f.sp. *ciceri* Using Pathogenicity and Microsatellite DNA Marker Characterization

PN Rakhonde[1], SS Mane[2], MV Totawar[3] and AD Gawande[4]

[1]Plant Pathology Section, ANCA, Warora Dist Chandrapur, Dr PDKV, Akola; [2,3]Department of Plant Pathology, Dr PDKV, Akola (MS); [4]CIPMC, Raipur (Chhattisgarh); Email: prashant_rakhonde@rediffmail.com

Abstract

Eighteen isolates of *Fusarium oxysporum* f.sp. *ciceri* causing wilt of chickpea representing nine states and eight Agro ecological region of India were analysed for their virulence and genetic diversity. All the isolates were pathogenic to susceptible *cv.* JG-62. They show variable reaction on set of host differential cultivars of chickpea, namely JG-62, BG-212, L-550, JG-74, CPS-1, WR-315, DCP-92-3, KWR-108, JG-12, Annegiri, IPC-2004-52 and K-850. On the basis of their reaction on host differential, these isolates were classified into five races. The same set of isolates were further analysed by using simple sequence repeats (SSR) primers. All SSR primers were found to be polymorphic (73.72%). The unweighted paired group method with arithmetic average grouped the isolates into five clusters at a genetic similarities ranging from 59.12 to 94.16 per cent. The molecular groups partially corresponded to the Agro ecological region/chickpea-growing region of the isolates as well as races of the pathogen characterized in this study.

Key words: Chickpea, *Fusarium oxysporum* f.sp. *ciceri*, genetic variability, SSR, wilt

Citation: Rakhonde PN, Mane SS, Totawar MV and Gawande AD. 2019. Analysis of Indian isolates of *Fusarium oxysporum* f.sp. *ciceri* using pathogenicity and microsatellite DNA marker characterization. *J Mycol Pl Pathol* 49 (3): 226-236