

**Research Article****Genetic Diversity and Pathogenic Variability Among Isolates of *Fusarium oxysporum* f.sp. *cumini* Causing Wilt of Cumin (*Cuminum cyminum* L.)****Suresh Kumar<sup>1</sup>, S Gangopadhyay<sup>2</sup> and SL Godara<sup>2</sup>**

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**Abstract**

Investigations were carried out to genetic diversity and pathogenic variability among ten isolates of *F. oxysporum* f.sp. *cumini* (FOC) assessed by using RAPD molecular markers and pathogenicity. Genetic diversity of *F. oxysporum* f. sp. *Cumini* isolates examined for RAPD analysis revealed that the average number of polymorphic bands per primer were 5.50. Percentage of polymorphism revealed by individual primers varied from 87.5 to 100 per cent with an average of 97.92 per cent. Based on RAPD analysis of the *F. oxysporum* f.sp. *cumini* isolates, JL-JS (0.68), JS-JD (0.67) and BK-NG (0.67) exhibited higher similarity coefficient. The average genetic similarity coefficient among all the FOC isolates observed was  $0.48 \pm 0.1$ . A separate set of experiment was laid out to observe the pathogenic variability of ten FOC isolates on ten cumin genotypes under green house conditions. All the isolates exhibited variable levels of virulence against all the cumin genotypes used. The variability studies revealed that *F. oxysporum* f. sp. *cumini* isolates JS, BK and NG were highly virulent on ten cumin genotypes. Based on disease reaction, the FOC isolates were categorized into three groups i.e. highly, moderately and less virulent group.

**Key words:** Cumin, *Fusarium oxysporum* f.sp. *cumini*, RAPD marker, variability, wilt

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