

Research Article

Morpho-cultural Characterization of *Fusarium oxysporum* f.sp. *lentis* inciting Wilt in Lentil

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Abstract

Wilt disease caused by *Fusarium oxysporum* f. sp. *lentis* affects lentil cultivation worldwide and is a prime factor responsible for the low yield of lentil in India. In the present investigations, twenty-three isolates of *F. oxysporum* f. sp. *lentis* (*Fol*) from different locations in Madhya Pradesh were characterized for cultural and morphological traits. These isolates exhibited variability in growth rate, size of conidia, conidial septation, colony color and colony texture. The isolates were categorized as fast (12 isolates, >8 mm day⁻¹), medium (9 isolates, 7 to 8 mm day⁻¹), and slow-growing (2 isolates, up to 7 mm day⁻¹). The colony color of different isolates ranged from white to purple/pinkish/yellowish tinge in white. The majority of the isolates (16) displayed a white colony color. Both fluffy (15 isolates) and appressed (8 isolates) colony textures were recorded. The size of macroconidia and microconidia varied from 16.38×4.66 to 36.32×5.46 µm and 4.16×3.75 to 12.06×4.08 µm, respectively. All the isolates were pathogenic, causing a 55.55 per cent (*Fol* 7) to 100 per cent (*Fol* 20) incidence in susceptible lentil RVL-31. Hence, the results indicated that the isolates of *F. oxysporum* f. sp. *lentis* associated with lentil were variable in Madhya Pradesh, potentially imposing a serious wilt problem in the region.

Key words: Lentil, *Fusarium oxysporum* f.sp. *lentis*, variability, wilt

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