

***Fusarium solani* f.sp. *cucurbitae* and *F. oxysporum* f.sp. *niveum* Inoculum Densities in Tunisian Soils and Their Effect on Watermelon Seedlings**

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Populations of *Fusarium solani* f.sp. *cucurbitae* (*Fsc*) and *Fusarium oxysporum* f.sp. *niveum* (*Fon*) in naturally infested soil of watermelon fields were counted by the soil dilution method with subsequent pathogenicity tests. Inoculum density varied within the same region from one field to another, ranging between 9 and 1600 CFU g⁻¹ soil for *Fsc* and from 0 to 200 CFU g⁻¹ soil for *Fon*. *Fusarium* crown- and root-rot-diseased seedlings were observed in most soils (93%); however, *Fusarium* wilt was observed in only 34% of soil samples. The disease incidence on cv. 'Giza' (Y) increased significantly with inoculum density in the soil (X) ($P < 0.001$). For *Fsc*, the relationship between inoculum density and disease incidence was characterized by the equation $Y = 0.0005X + 0.165$ ($R^2 = 0.67$). For *Fon*, the equation was $Y = 0.003X - 0.0014$ ($R^2 = 0.88$). Based on these equations, the estimated inoculum densities required to cause 50% disease incidence (DI₅₀) on cv. Giza plants was 670 and 171 CFU g⁻¹ soil for *Fsc* and *Fon*, respectively.

KEY WORDS: Disease potential; *Fusarium oxysporum* f.sp. *niveum*; *Fusarium solani* f.sp. *cucurbitae*; watermelon fields.

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