Investigating the pathogenic differences Phytophthora capsici isolates, the cause of root rot and pepper stems collected from Varamin-Pishva region

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ABSTRACT
Phytophthora capsici, is one of the most destructive factors of pepper crown and root rot in pepper cultivation regions across the world. This pathogen attacks the roots and crown of the plant at all growth stages and causes the wilt or death of the plant. In this study, fungus isolates collected from the pepper fields and greenhouses in different regions of Varamin and plants with symptoms of damping-off, root and crown rot. Samples were cultivated in semi-selective Phytophthora culture medium (CMA + PARPH) after washing and disinfection. Cultivars were identified on morphological characteristics and identification keys of Erwin Verbieru (1996). The pathogenicity of the species was demonstrated on host plants and the isolate pathogenicity was determined after inoculation on Plato sensitive cultivar by Golsir et al. methods. According to results from all sampling from different regions, a total of 10 pure P. capsici isolates were obtained. The Ph-pi-51 isolate collected from pepper from Pishva region with a disease severity index of 91.6% was in the statistical group “a” with the highest rate of pathogenesis as the most destructive pathogen. Karimabad Ph-ka-21 isolate, with a disease severity index of 88.6 in the ab statistical group, was the most pathogenic after the first isolate. Also the Ph-ta-16 and Ph-dv-44 isolates with the disease severity index of 48.8 and 33.3 had the lowest rates of disease on pepper and were included in the group of isolates with low pathogenicity.

Keywords: Pepper, Phytophthora capsici, isolate, pathogenicity

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