PATHOGENICITY OF SOME ISOLATES OF PYTHIUM AND PHYTOPHTHORA ON DETACHED SHOOTS AND SEEDLINGS OF ALMOND*

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Abstract

During the observations over nurseries and almond orchards of Kermanshah Province in 2010-2011, saplings and fertile trees suspected to infection by Pythium and Phytophthora and the soil around their crown and foots were sampled. After culturing these samples on common and semi-selective media, some isolates of Pythium (sensu lato) and Phytophthora were obtained. These isolates were identified based on their morphological and several physiological characteristics. Pathogenesity tests were performed on excised shoots and seedlings In vitro and In vivo respectively. In this research, 12 isolates, belong to 4 species including Phytophthora cactorum, Pythium aphanidermatum, Ovatisporangium helicoides and Pythium group-G were identified. The isolates were mostly from the soil around the roots and foots of saplings. In pathogenesity test on excised shoots, highly significant differences were found among the treatments based on the rate of disease extension. In this experiment the most disease extension was induced by P. cactorum followed by O. helicoides. There was no significant differences among P. aphanidermatum and P. group-G when compared to the control. In pathogenesity test under greenhouse condition, P. cactorum isolates caused seedling death after 7 days; but the symptoms of seedling death appeared after 40 days, when almond seedlings were exposed to P. aphanidermatum and O. helicoides. P. group-G did not make any pathogenesity on almond seedlings in both experiments. This is the first report of identification and pathogenesity of O. helicoides in Iran.

Keywords: Almond, Kermanshah province, pathogenesity, P. cactorum, P. aphanidermatum, P. helicoides, P. Group-G.

See Persian text for figures and tables (Pages 33-39.).

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