

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 roots 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. Pathogenesis 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 roots of saplings. In pathogenesis 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 pathogenesis 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 pathogenesis on almond seedlings in both experiments. This is the first report of identification and pathogenesis of *O. helicoides* in Iran.

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

See Persian text for figures and tables (Pages ۳۳-۳۹).

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