

The Use of Nested PCR Method for Rapid Detection of *Rosellinia necatrix* Causal Agent of White Root Disease From Soil and Root

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Abstract

White root rot disease, caused by *Rosellinia necatrix* is one of the most important disease of fruit trees in Iran and worldwide. To detect the pathogen from soil and root, six infected soil samples were collected from cherry crown trees and two samples were collected as positive and negative control. DNA Extraction from eight soil samples including infected cherry roots by white cottony mycelium, roots infected by white mycelial fans and symptom less roots and two faba roots, with white cottony mycelium and symptom less root was performed. Detection of the Pathogen was done by two specific primer pairs R2 .R8 and R7 .R10 in Nested PCR reaction. The results showed the detection from six infected soil, positive control and in roots colonized by white cottony mycelium and roots by white mycelial fans and faba roots colonized by white cottony mycelium. No detection was achieved from symptom less roots. To verify the accuracy of the used detection method, ITS region was amplified and cloned in pTZ57R/T vector and sequenced. Comparison of the sequence showed %98.99 similarities to the recognized isolate of *R. necatrix*. According to our findings, it seems that Nested PCR method could be useful to rapid detection of *R. necatrix* from soil and root of plants in orchards.

Keywords: *Rosellinia necatrix*, Nested PCR, White root rot, Detection

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