

## **Molecular Detection of *Verticillium dahliae* Kleb. in Asymptomatic Olive Trees**

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To test and compare the sensitivity of single and nested PCR-based assays with a standard plating procedure in detecting the infection of *Verticillium dahliae*, especially in asymptomatic olive trees at different tree heights, two symptomatic and two asymptomatic *V. dahliae*-infected trees were sampled during the period of the minimal *V. dahliae* activity in olive tissues in summer at 10, 40, 70, 100, and 130 cm heights from the trunk base. The branch samples were subjected for standard plating and DNA extraction and amplification by *V. dahliae*-specific single and nested PCR oligonucleotide primers derived from the internal transcribed spacer regions of nuclear ribosomal RNA (rRNA) genes of *V. dahliae*. The single PCR-based assay was highly sensitive compared with the standard plating detecting *V. dahliae* at most tree heights. More detection of *V. dahliae* was in symptomatic trees than asymptomatic trees and the intensity of the PCR decreased with increasing distance from the trunk base. The nested PCR allowed more specific amplification of *V. dahliae* than did the single PCR resulting in detecting the fungus in all heights of the asymptomatic trees. The single or nested PCR-based assays could be used as a powerful diagnostic tool to detect *V. dahliae* latent infection in olive trees before symptom development and disease spread to newly established orchards.