

ΤΕΧΝΟΛΟΓΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΥΠΡΟΥ
ΣΧΟΛΗ ΓΕΩΤΕΧΝΙΚΩΝ ΕΠΙΣΤΗΜΩΝ ΚΑΙ ΔΙΑΧΕΙΡΙΣΗΣ
ΠΕΡΙΒΑΛΛΟΝΤΟΣ

ΤΜΗΜΑ ΓΕΩΠΟΝΙΚΩΝ ΕΠΙΣΤΗΜΩΝ,
ΒΙΟΤΕΧΝΟΛΟΓΙΑΣ ΚΑΙ ΕΠΙΣΤΗΜΗΣ ΤΡΟΦΙΜΩΝ

Πτυχιακή εργασία

ΜΟΡΙΑΚΗ ΚΑΙ ΜΟΡΦΟΛΟΓΙΚΗ
ΤΑΥΤΟΠΟΙΗΣΗ ΕΙΔΩΝ ΤΟΥ ΓΕΝΟΥΣ
Alternaria ΑΠΟ ΚΑΡΠΟΥΣ ΡΟΔΙΑΣ

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ABSTRACT

"Black heart" or "heart rot" disease of pomegranate fruit, related to the genus *Alternaria*, has been reported causing significant qualitative and quantitative crop losses worldwide. The scope of the present study was the species identification of the *Alternaria* species involved in the "black heart" of pomegranates in Greece and Cyprus. Thus, during 2013, local orchards were surveyed and 82 fungal isolates of the genus *Alternaria* from Greece and Cyprus were collected from pomegranates expressing preharvest rot symptoms. Partial sequencing of the endopolygalacturonase (EndoPG) gene using the primers PG3 and PG2b, revealed that preharvest *Alternaria* pomegranate fruit rots were caused by the species *Alternaria alternata*, *A. tenuissima*, and *A. arborescens*. More specifically, 30 isolates were *A. alternata*, 19 *A. tenuissima* and 14 *A. arborescens*. The remaining 19 isolates were found to belong to the complex *A. alternata/A. tenuissima* and an accurate separation at the species level was not possible. In order to fulfill full identification the remaining isolates were characterized based on morphological characteristics and more specifically on their sporulation patterns. The combinatorial identification approach followed herein revealed that the predominant *Alternaria* species related to the "black heart" of pomegranates was *A. alternata* with frequencies of 50 and 55.9% in Greece and Cyprus, respectively. The species *A. tenuissima* and *A. arborescens* followed at frequencies of 31.2% and 29.4% and 18.8% and 14.7% in Greece and Cyprus, respectively.