

# Assessment of resistance to *Phytophthora cinnamomi* Rands in Mexican race avocado genotypes by electrical conductivity

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## 1 ABSTRACT

Phytophthora root rot caused by *Phytophthora cinnamomi* Rands., is distributed worldwide and causing great economic losses to the avocado producers. The search for avocado rootstocks that present resistance against this rot has been done by screening in germplasm banks and wild materials of this species. Resistance of avocado to *P. cinnamomi* has been determined through of different methods, both direct (shoots, stem and roots inoculation with zoospore suspension) and indirect (mycelium attraction and electrolyte leakage). In this study, the objective was to evaluate the resistance of ten Mexican race avocado genotypes against isolates of *P. cinnamomi* (Pc1, Pc2) by changes in the electrical conductivity in inoculated roots fragments suspension. Electrical conductivity was measured and registered 24, 48, 72 and 96 h after inoculation. Variance analysis was carried out and no effect was found on genotypes x isolates interaction, yet significant differences were found within genotypes and within isolates. 'Duke 7' genotype was identified as resistant, showing the lowest electrical conductivity average value of 0.141 mS·cm<sup>-1</sup> from all the evaluated genotypes. *P. cinnamomi* isolate Pc2 was found to be significantly ( $P \leq 0.05$ ) more pathogenic by inducing an average change of 0.536 mS·cm<sup>-1</sup> on the electrical conductivity of the avocado genotypes, while isolate Pc1 showed an average value of 0.470 mS·cm<sup>-1</sup>. Most genotypes presented values greater than 1 on the ratio in electrical conductivity change. Therefore, even when this technique cannot be used as an absolute test for resistance, it is suggested to be considered as a complementary test in a rootstock selection process for resistance.

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