



CYTOLOGICAL AND BIOCHEMICAL CHANGES INDUCED BY CHITOSAN IN THE PATHOSYSTEM *ALTERNARIA ALTERNATA*-TOMATO.

ABSTRACT

The cytological and biochemical response of the fungus *Alternaria alternata* to chitosan application in tomato fruits was evaluated. The research was developed in the following stages: microscopically to observe the degree of damage that chitosan causes over the conidia and hyphae of the fungus at the structural level and during the infection process in tomato tissue. Biochemically we tried to identify the elicitation of the phytoalexin rhisitin and other compounds involved in resistance. At the microscopic level, mycelium and conidia of chitosan-treated of *A. alternata* showed cell wall disintegration, plasma membrane retraction, cellular distortion, release of the apical portion of the conidia and lysis of fungal cells. Hyphae and conidia were susceptible to chitosan application. Infection always took place in chitosan treated and inoculated tomatoes and it was difficult to observe ultrastructural alterations due to chitosan application. The phytoalexin rhisitin was not isolated from any of the treatments but other compounds such as alkenes, fatty acids and vitamin E whose antimicrobial effects have been reported were detected. The elicitation of precursor compounds in the pathosystem *A. alternata*-tomato was more associated with the infection process than with the chitosan application. Further studies are necessary to confirm these findings.

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