

**TITLE:** MORPHOLOGICAL CHANGES OF *Monilinia fructicola* EXPOSED TO DIAMINE COMPOUNDS

**AUTHORS:** SOUZA, A.D.<sup>1</sup>; SAN FELICIANO, A<sup>2</sup>.; FELICIO, J.D.<sup>1</sup>; GONÇALEZ, E<sup>1</sup>.

**INSTITUTION:** INSTITUTO BIOLÓGICO, SÃO PAULO, SP (AVENIDA CONSELHEIRO RODRIGUES ALVES, 1252 - Vila Mariana, São Paulo - SP, 04014-002, BRAZIL); UNIVERSIDAD DE SALAMANCA, Campus Miguel de Unamuno, Salamanca, España.

**ABSTRACT:**

The brown rot caused by the fungus *Monilinia fructicola*, is the main disease of the peach tree in the world. The objective of this work was to observe morphological alterations of the fungus when exposed to synthetic diamine compounds. Substances 1a, 2a and 4a 'were tested in the following dilutions: S1 = 600 DMSO, S2 = 100S1 + 100DMSO and S3 = 100S2 + 100DMSO; S1 = 200DMSO, S2 = 400DMSO and S3 = 100S2 + 100DMSO and S1 = 200 DMSO, S2 = 150DMSO and S3 = 50S2 + 100DMSO, respectively. Blocks colonized by the fungus in the presence of treatments were directly removed from the plates and deposited on slides. After application of a drop of water + glycerin (1: 1), they were covered with coverslip. The hyphae, conidiophores and conidia were analyzed using an optical microscope with a 40x objective. Micro morphological changes were observed in *M. fructicola* when exposed to the compounds while the mycelium of the untreated cells showed a regular structure with homogeneous cytoplasm and clearly visible, lamniform conidia produced in chains with 15 to 25 by 8 to 14  $\mu\text{m}$ . The gray and abundant mycelium cultured in medium added to the compounds, presented some morphological alterations with distortions of the hyphae. The alterations found were: distorted development of the hyphae, broad and deformed short showing dilations along its structure, as well as the formation of stroma; Loss of cytoplasm of fungal hyphae, lack of sporulation, visible loss of pigmentation, reduction of conidial head, minor or total absence of conidia, totally distorted conidiophores, in addition to bifurcated hyphae. The understanding of fungal morphology, especially in plant pathogens, is determinant in the introduction of host tissues. Although conidia initiate the infectious process, hyphae are more specialized in the invasion process. The inability to form hyphae can make the fungus a virulent. In this context, it can be affirmed that the results found in this work are determinant for the supply of alternatives for the control of brown rot, since the compounds compromised the growth, viability and virulence of the fungus.

**Keywords:** brown rot; post-harvest; microscopy