

## PLOIDY RESPONSE OF *Moniliophthora perniciosa* TO DIFFERENT MUTAGENS

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The hemibiotrophic basidiomycete *Moniliophthora perniciosa* (Mp) is responsible for the “witches’ broom disease” in cacao (*Theobroma cacao*). In order to understand why Mp changes from monokaryotic to dikaryotic stage, and whether this change goes along with altered sensitivity/resistance to genotoxins, we decided to compare sensitivity of both of Mp cultures to different mutagens. Cells grown for 7 days on liquid MP-PGlycerol/ MP-PGlucose medium, were submitted to fragmentation, and 1mL of the monokaryotic/dikaryotic broken-hyphae and basidiospores was exposed to different mutagens ( $H_2O_2$ : 0.5; 1.0; 1.5; 2.0; 4.0 mM, Paraquat: 25; 50; 100; 200; 400  $\mu$ M, 4NQO: 2; 4; 8  $\mu$ M). Monokaryotic and dikaryotic broken hyphae and basidiospores were also irradiated with UVC (12; 24; 48; 96 J/m<sup>2</sup>). Plates were incubated at 25°C in the dark for 7 days and then screened for appearance of Mp pseudo-colonies. The resistance ranking to the oxidative stress mutagens ( $H_2O_2$ , PAQ) was basidiospores > monokaryon (glycerol) > dikaryon (glycerol) > dikaryon (glucose) whereas the DNA damage agents (UVC, 4NQO) elicited the same resistance response for basidiospores and mono/dikaryon (glycerol) and only dikaryon (glucose) was significantly more sensitive. Apparently, growth in glucose does not only accelerate hyphal growth but also leads to higher sensitivity to all four tested mutagens.

Key words: *Moniliophthora perniciosa*, genotoxicity, ploidy effects, catabolic response.

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