Diversity of Aspergillus section Nigri on the surface of Vitis labrusca and its hybrid grapes -

This study investigated the presence of Aspergillus species belonging to Aspergillus section Nigri on Vitis labrusca and its hybrid grapes grown in Brazil. The ability of the fungi isolates to produce ochratoxin A (OTA) and fumonisin B2 (FB2) as well as the presence of these mycotoxins in the grapes were also studied. Eighty-eight samples were collected from the main grape producing states in Brazil: Rio Grande do Sul (n=30), Pernambuco (n=21), São Paulo (n=21) and Paraná (n=16). The highest average contamination level by A. section Nigri occurred on the grapes from Pernambuco (66.3%). A total of 2042 A. section Nigri isolates was analyzed and clustered in three groups according to morphology characterization: A. section Nigri uniseriate (79.3%), A. niger "aggregate" (18.3%) and A. carbonarius (2.4%). In order to precisely identify the Aspergillus species, two hundred and forty-eight strains were subjected to DNA sequencing. Among the A. section Nigri uniseriate group, the following species were found: A. japonicus, A. uvarum, A. brunneoviolaceus, A. aculeatus and A. labruscus. Within the A. niger "aggregate", the following species were found: A. niger sensu stricto, A. welwitschiae and A. vadensis. Regarding mycotoxin-production capacity, 3.2% of the total A. section Nigri isolates (2042) were positive for OTA production and from A. niger "aggregate" (373) tested, 42.1% were FB2 producers. However, none of the 88 grape samples were contaminated with these mycotoxins.

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