ASPERGILLUS SECTION *NIGRI* IN GRAPE FOR JUICE PRODUCTION

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Grape production has been highlighted, increasingly, in the Brazilian economy with about 50% of the Brazilian grape production intended for processing (wine, juice and derivatives). Although there is an effort to control fungal contamination in food, toxigenic fungi are present in nature and occur regularly in foods such as cereals, fruits and nuts. The three principal genera of toxin production in foods are: *Aspergillus, Fusarium* and *Penicillium*. *Aspergillus* section *Nigri,* are commonly found in food and some of their species are able to produce mycotoxins, such as ochratoxin A (OTA), and Fumonisin B_2 (FB_2). The objective of this study was to evaluate the contamination of grapes intended for the production of juice from different producing regions of Brazil by A. section Nigri and toxigenic potential of the isolates. Furthermore, the presence of OTA and FB_2 in the grape samples was investigated. The samples were collected in the states of Paraná (16), Rio Grande do Sul (30), Pernambuco (22) and São Paulo (21) and 100 grapes were plated on agar medium dichloran Rose Bengal Chloramphenicol (DRBC) without external disinfection. The fungi were isolated and identified through the macro and microscopic characteristics, in comparison with recent classification keys. Isolates were evaluated for their potential for producing ochratoxin through the plug agar technique of using thin layer chromatography under ultraviolet light and to produce fumonisin by high-performance liquid chromatography after derivatization reaction with OPA (o-phthaldialdehydo). An immunoaffinity column was used to clean the sample and then the OTA and FB_2 were quantified by high-performance liquid chromatography with fluorescence detector. For FB_2 pre-derivatization with OPA was utilized. Among the 89 grape samples analyzed (varieties: “Bordo”, “Isabel”, “Isabel precoce”, “Concorde”, “Violeta”, “Cora”, “Niágara”, “Moscatel” and “Coder”), all showed 100% of total fungal infestation. Seventy-four samples showed infestation by *A.* section *Nigri* (between 1 and 100%). Out of 2.089 isolated strains of *A.* section *Nigri,* 130 (5.17%) were producers of OTA and 181 (7.32%) of FB_2. Although many samples had infestation of *A.* section *Nigri,* none showed contamination by OTA and/or FB_2. The infestation rate varied from region to region because of the different climatic conditions.

Keywords: Grapes, Aspergillus section Nigri, Ochratoxin A and Fumonisin B_2

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