

Title Molecular strategy to discriminate between two ochratoxin A producing *Aspergillus niger* aggregate species isolated from fresh and dried grapes

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Abstract

Aspergillus genus is an ubiquitous fungal group that colonizes a wide range of substrates. A total of 100 Tunisian fungal strains isolated at harvest time from fresh and dried grapes were identified within the section *Nigri* and tested for their ochratoxin A (OTA) producing abilities. Of the isolates, 45% were identified as *Aspergillus tubingensis*, 34% as *Aspergillus niger*, 12% as *Aspergillus japonicus* and 9% as *Aspergillus carbonarius*. The OTA production was assessed using Czapeck yeast extract agar which revealed that 25% of the isolates belonging to the *Aspergillus niger* aggregate were OTA producers, while 97% were identified as belonging to the *A. Carbonarius* species. To distinguish between *A. Niger* and *A. Tubingensis*, PCR was used to amplify the ITS-5.8S rDNA for these two strains. The sequence analysis of the PCR products revealed a full similarity between the two species. Thus, a new molecular strategy has been developed based on the targeting of the gene from nitrate reductase (*niiA*) and nitrite reductase gene (*niaD*), as well as the intergenic region of the gene (*niiA-niaD*). The subsequent screening revealed that two new specific primer pairs can be used to identify specifically *A. Niger* and *A. Tubingensis*.

<http://www.springerlink.com/content/q32725x076356737/fulltext.pdf>