



Aspergillus species in *Vitis vinifera* of organic and conventional farming in the São Francisco Valley, Brazil

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The biodiversity of filamentous fungi is one of the most important contributions to the occurrence of mycotoxins in agricultural products. The fungi species belonging to the genus *Aspergillus* has been blamed for the presence of mycotoxins in wine. The incidence of fungi of these genera in grapes will depend on climatic conditions, grape variety, form of cultivation and agricultural practices. This study aimed to identify *Aspergillus* species isolated from wine grapes from organic and conventional cultivation Sub-medium region of the São Francisco Valley. Varieties evaluated were Touriga Nacional and Ruby Cabernet in conventional farming and Tempranillo in organic farming. A direct plating method was carried out in DRBC agar, a selective culture medium, at 25°C/7 days (Samson et al., 2000). The isolates were identified using CYA and MEA, standard culture media (Klich, 2002; Pitt, 2000). The determination of toxigenic potential was performed by Thin Layer Chromatography (Filtenborg and Frisvad, 1980). The Touriga Nacional and Ruby Cabernet varieties had 100% berries contaminated by filamentous fungi, while the Tempranillo variety, had only 6% of infected berries. Nineteen fungi of the Touriga Nacional variety were isolated and identified: *A. aculeatus* (1) *A. niger* (3) and *A. carbonarius* (15) and 10 fungi of the Ruby Cabernet variety: *A. aculeatus* (7), *A. foetidus* (1) and *A. tubingensis* (2). There was no presence of *Aspergillus* in the Tempranillo. All *A. carbonarius* (15) were producers of ochratoxin A. All identified species of fungi was naturally present in wine areas and can spoil the grapes, but the presence of these toxigenic species does not necessarily indicate the presence of ochratoxin A in wine. The use of good agricultural practices is important to minimize the presence of filamentous fungi and the production of toxins. These results demonstrate that the practice of organic farming adopted in the region has a positive influence on health of wine grapes studied.

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References

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