

Evaluation of Conventional and Organic Italian Foodstuffs for Deoxynivalenol and Fumonisin B₁ and B₂

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Abstract

Two lots of human foodstuffs from conventional and organic brand foods were purchased from supermarkets and analyzed for three *Fusarium* toxins, deoxynivalenol, by GC-ECD, and fumonisins B₁ and B₂ (FB₁-FB₂), by LC-MS. The occurrence of deoxynivalenol contamination was higher than 80% in both organic and conventional foods; fumonisin B₁ was found in 20% of organic foods and in 31% of conventional ones and fumonisin B₂ in more than the 32% of the food samples from both the agricultural practices. The highest median concentration of deoxynivalenol occurred in conventional rice-based foodstuffs (207 µg/kg): that of fumonisin B₁ in conventional maize-based foods (345 µg/kg) and that of fumonisin B₂ in organic wheat-based foods (210 µg/kg).

Keywords: Deoxynivalenol; fumonisins; human foods; conventional and organic agriculture