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Ochratoxin A in conventional and organic cereal derivatives: a survey of the Italian market, 2001–02

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Abstract

Ochratoxin A is a mycotoxin produced mainly by *Penicillium verrucosum* and *Aspergillus ochraceus*. Although typically considered a cereal contaminant, it has also been detected in dried fruit, nuts, meat and derivatives. To estimate the quantity of ochratoxin A that might be ingested by Italian consumers from these foods, 211 cereal derivatives (flours and bakery products) were analysed by high-performance liquid chromatography. Products were from conventional and organic agriculture and from integrated pest management agriculture. All commercial flours and derivatives examined contained ochratoxin A at concentrations very much below the legal limit (3 μg kg^{-1}): the highest value, 0.816 μg kg^{-1}, was detected in a sample of spelt whole flour from organic agriculture. In many samples, the ochratoxin content was below the limit of detection; only rarely did values exceed 0.5 μg kg^{-1}. In baby foods, four samples were above the particularly restrictive Italian legal limit of 0.5 μg kg^{-1}. Although some significant differences were found between samples from conventional and organic agriculture when some product categories were examined (namely, baby foods as semolina and rice creams), no important difference was found between the two types of agricultural practice when all types of cereal derivatives were considered together.