

Title Occurrence of ochratoxin A in cereals and coffee in Hungary in 2001.
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Abstract

Ochratoxin A (OTA) is a carcinogenic and nephrotoxic secondary metabolite of several *Aspergillus* and *Penicillium* species. It forms during the storage of cereals and other products of plant origin. The aim of this work was to determine the ochratoxin content of foods and feeds posing a possible health hazard to humans and animals. One hundred and eight human foodstuff samples (baking wheat, wheat flour, maize coarse meal, roasted coffee) and 82 animal feedstuff samples (feeding wheat, feeding maize, feeding barley) were analysed by clean-up by immunoaffinity column followed by high-performance liquid chromatography (IAC-HPLC). Cereal samples were taken after 6-12 months of storage periods after harvest, and the roasted coffee samples were obtained from retailers. The limit of detection was 0.1 ng/g OTA. Of the wheat samples intended for human consumption, 8.3% tested positive for OTA, with levels ranging from 0.12 to 0.5 ng/g. The mean value of the positive samples was 0.29 ng/g OTA. The OTA levels in wheat flour and maize coarse meal samples were in a similarly low range. Ochratoxin A contamination was found in 66% of the roasted coffee samples. The highest and the mean levels of the positive samples were 1.3 ng/g and 0.57 ng/g, respectively. The proportion of feedstuff samples testing positive for OTA was 26.7%, 15.6% and 35% for feeding wheat, feeding maize and feeding barley, respectively. The mean values of positive samples and the OTA ranges, respectively, were: 12.2 ng/g and 0.3-62.8 ng/g for wheat; 4.9 ng/g and 1.9-8.3 ng/g for maize; and 72 ng/g and 0.14-212 ng/g for barley. Our results show that the OTA contamination of wheat intended for human consumption was very low, which can be explained by good weather conditions during the harvest and the use of adequate storage facilities. According to our calculations from the experimental data, the average daily OTA intake was only 6.7 ng from wheat and 4.1 ng from coffee. High contamination of feedstuffs raises the question of whether this poses a possible health hazard to animals, and increases the occurrence of OTA-contaminated animal-derived products. Since the relatively highly contaminated cereals were submitted by small animal holdings and feed-growing farms known to have obsolete storage facilities, our results emphasise the importance of good storage practices.