Introduction

Ochratoxin A (OTA) is most often reported in cereals (wheat, barley, oats and corn), oleaginous seeds, animal-derived products, coffee, raisins, grapes, dried fruits, wine, beer, sorghum and rice (Levi, Trenk & Mohr, 1974; Levi, 1980; Burdaspal & Legarda, 1998; Romani *et al.*, 2000; Trucksess, 1999).

This mycotoxin has been shown to be nephrotoxic, immunosuppressive, teratogenic, mutagenic, carcinogenic and possibly genotoxic in animal experiments (FAO/WHO, 2001). The International Agency for Research on Cancer (IARC) classified ochratoxin A as possibly carcinogenic for humans (group 2B) and an European Commission report concluded that ochratoxin A causes renal tumors by non-genotoxic mechanisms (IARC, 1993; EC, 2001). Ochratoxin A causes significant diseases in animals, especially swine, and is the most probable mycotoxin involved in an endemic nephropathy in the Balkan countries. The effect of ochratoxin A in other animals is exhibited primarily as a decrease in productivity (Smith & Moss, 1985; Stoev, 1998; Krog & Elling, 1973).

Regulatory bodies are continually assessing the levels of allowable exposure to humans by using a risk assessment process to establish tolerable daily intakes of selected mycotoxins (CAST, 2003). The Joint Expert Committee on Food Additives (JECFA) established a provisional tolerable weekly intake (PTWI) of 100 ng/kg body weight based on the lower amount of the toxin that caused adverse effects to swine kidneys (FAO/WHO, 2001). In 1998, the Scientific Committee for Food of the European Commission considered that it would be prudent to reduce the tolerable daily intake to less than 5 ng/kg body mass, indicating that ochratoxin A accumulation constitutes a risk situation for consumers (EC, 1998).

Several countries have set regulations and guidelines for the control of ochratoxin A in coffee (FAO, 2004), at levels ranging from 2.5 ng/g to 50 ng/g (FAO, 1997).

The development of internationally recognized regulations and control measures for mycotoxins that protect public health and promote fair trade at the international level must be vigorously pursued. In general, worldwide regulations for mycotoxins are based on toxicological, occurrence, distribution and epidemiological data. However, regulations should not be so strict that jeopardize the limited food supply of developing countries, or result in excessively priced commodities (EC, 1998).

Several agreements, the World Trade Organisation (WTO) Agreements on Sanitary and Phytosanitary Measures (SPS) and Technical Barriers to Trade (TBT), promote greater harmonization and transparency in the establishment of food regulations that protect the consumer and facilitate trade. For food safety, the SPS agreement recommends the use of international standards, guidelines and recommendations established by the Codex Alimentarius Commission concerning contaminants, methods of analysis and sampling (Part & Troxell, 2002).

The presence of mycotoxins in commodities is, at present, unavoidable. Therefore, preventing their occurrence in the food chain requires management

strategies that avoid contaminated commodities from entering food and feed processing facilities (EC, 1998). Understanding the elements of strategies to manage mycotoxins is a pre-requisite for instituting a quality assurance program for mycotoxins for human and animal consumption (CAST, 2003).

Effectively managing mycotoxin detection and quantification is important. This highlights the necessity of having validated analytical methods, sampling plans and quality assurance systems in place to assess whether exported coffee meets the standards required by importing countries.

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