

Possible aflatoxin presence in Portuguese poultry units

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Abstract

Introduction: Aflatoxins are known to be human carcinogens based on sufficient evidence of carcinogenicity in humans (hepatocellular carcinoma, or primary liver-cell cancer). Aflatoxin B1 is one of the most deeply studied mycotoxins, known for a long time as belonging to the group of toxins produced by the genus *Aspergillus* (*A. flavus*, *A. parasiticus*, *A. nominus*). The presence in food stuffs depends on their geographical origin and production methods. Occupational exposure to aflatoxins can occur by inhalation of dust generated during the handling and processing of contaminated crops and feeds. Therefore, farmers and other agricultural workers have one of the greatest risks of occupational exposure to these mycotoxins.

Objective: To characterize *A. flavus* prevalence in seven poultry units, with emphasis to the possible presence of aflatoxin in the air.

Methods: A descriptive study was developed to monitor air fungal contamination in seven poultry units. Nineteen interior air samples of 25 litres were collected through impaction method.

Results: From the seven poultry units analyzed, *A. flavus* was found in three of them. From all fungal genus identified in the referred units, *A. flavus* was the third species most frequently found in air samples (7.23%). Moreover, in those units, and from the *Aspergillus* genus, *A. flavus* was the most frequently isolated species in air samples (74.5%).

Conclusions: Regarding the observed results and considering the high number of units contaminated by fungi known as possible aflatoxin producers, we have to believe that exposition can occur by inhalation (workers) and ingestion (consumers). This situation might represent a public health problem considering that aflatoxin is a known cancer agent.

Key words Aflatoxin; *Aspergillus flavus*; poultry; occupational exposure; public health