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Potential poultry and meat products contamination by aflatoxin B1 due to fungal presence in Portuguese poultry units

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Abstract:

The impact of mycotoxins on human and animal health is well recognized. Aflatoxin B1 (AFB1) is by far the most prevalent and the most potent natural carcinogen and is usually the major aflatoxin produced by toxigenic fungal strains. Data available, points to an increasing frequency of poultry feed contamination by aflatoxins. Since aflatoxin residues may accumulate in body tissues, this represents a high risk to human health. Samples from commercial poultry birds have already presented detectable levels of aflatoxin in liver. A descriptive study was developed in order to assess fungal contamination by species from Aspergillus flavus complex in seven Portuguese poultry units. Air fungal contamination was studied by conventional and molecular methods. Air, litter and surfaces samples were

collected. To apply molecular methods, air samples of 300L were collected using the Coriolis µ air sampler (Bertin Technologies), at 300 L/min airflow rate. For conventional methodologies, all the collected samples were incubated at 27ºC for five to seven days. Through conventional methods, Aspergillus flavus was the third fungal species (7%) most frequently found in 27 indoor air samples analysed and the most commonly isolated species (75%) in air samples containing only the Aspergillus genus...