# From farm to food: The overlooked impact of mycotoxins in poultry feed

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The occurrence of mycotoxins in poultry feeds is a primary problem worldwide due to their carcinogenic, mutagenic, and reprotoxic effects. This secondary metabolite generated by fungi can compromise animals' health and productivity. Monitoring mycotoxin exposure is crucial, as fungi are not reliable indicators of mycotoxin presence [2,3]. This is partly because mycotoxins can remain in the environment long after the fungi have been eliminated, and not all fungal species generate mycotoxins [4]. Besides, the potential transfer of these toxins to poultry products, such as meat and eggs consumed by humans, underscores the importance of effective mitigation strategies [1].

This study aimed to identify prevalent fungi and mycotoxins in poultry feed. Composite samples of animal feed (n=29) were collected inside poultry pavilions. Classical methodologies were employed to assess fungal contamination (inoculation in DG18, 27ºC, during 5-7 days) and fungal densities ($CFU.g^{-1}$) were calculated. Isolation, identification, and determination of major mycotoxins (aflatoxins; ochratoxin A, fumonisins and zearalenone) were performed using HPLC.

Clinical and toxicological relevant species belonging to *Penicillium*, *Mucor* and *Aspergillus* genera were found. *Aspergillus* species from the *Fumigati* section (WHO 2022 priority list) were also detected. Regarding mycotoxins, fumonisions classified as possibly carcinogenic (IARC, group 2B) and zearalenone (IARC, group 3B) were prevalent , ochratoxin-A (IARC, group 2B) was found in 2 samples in lower values (<LOQ), while aflatoxins was not found.

This study evidence that animal feed is contaminated with mycotoxigenic fungi and mycotoxins. Besides, the co-occurrence of at least 2 mycotoxins were found in all samples and more research is needed to investigate the synergistic effects of multi -mycotoxins exposure [5]. It is also relevant to consider to what extent mycotoxins can be carried over into edible tissues like poultry meat and their impact on human health [2]. To the best of our knowledge fungi and mycotoxins are still a neglected problem in poultry production, that must be addressed to mitigate their adverse effects on poultries and humans through the food chain.

**References:**

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