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Fungal contamination of poultry litter: a public health problem

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FUNGAL CONTAMINATION OF POULTRY LITTER: A PUBLIC HEALTH PROBLEM
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Although numerous studies have been conducted on microbial contaminants associated with various stages related to poultry and meat products processing, only a few reported on fungal contamination of poultry litter. The goals of this study were to (1) characterize litter fungal contamination and (2) report the incidence of keratinophilic and toxigenic fungi presence.
Seven fresh and 14 aged litter samples were collected from 7 poultry farms. In addition, 27 air samples of 25 litters were also collected through impaction method, and after laboratory processing and incubation of collected samples, quantitative colony-forming units (CFU/m^3) and qualitative results were obtained. Twelve different fungal species were detected in fresh litter and *Penicillium* was the most frequent genus found (59.9%), followed by *Alternaria* (17.8%), *Cladosporium* (7.1%), and *Aspergillus* (5.7%). With respect to aged litter, 19 different fungal species were detected, with *Penicillium* sp. the most frequently isolated (42.3%), followed by *Scopulariopsis* sp. (38.3%), *Trichosporon* sp. (8.8%), and *Aspergillus* sp. (5.5%). A significant positive correlation was found between litter fungal contamination (CFU/g) and air fungal contamination (CFU/m^3). Litter fungal quantification and species identification have important implications in the evaluation of potential adverse health risks to exposed workers and animals. Spreading of poultry litter in agricultural fields is a potential public health concern, since keratinophilic (*Scopulariopsis* and *Fusarium* genus) as well as toxigenic fungi (*Aspergillus*, *Fusarium*, and *Penicillium* genus) were isolated.