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FUNGI DISTRIBUTION IN POULTRY FEED

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Feed can easily be contaminated and colonized by fungi that use up the nutrients for their own metabolism and growth, producing secondary metabolites such as mycotoxins that are not eliminated throughout the feed processing. The major problems associated with mycotoxin contaminated animal feed are metabolic disturbances resulting in poor animal productivity. In addition, handling contaminated animal feed can also raise health issues regarding workers exposure to fungi and mycotoxins.

The scope of this work was to characterize fungal distribution in 11 poultry feed samples. Twenty grams of feed were suspended in 180 mL of distilled water and homogenized during 20 minutes at 200 rpm. The washed supernatant was plated in malt extract agar (MEA) and dichloran glycerol agar base (DG18) media for morphological identification of the mycobiota present.

Using macro- and microscopic analysis of the colonies, fungal contamination was evident in 72.7% of the analyzed poultry feed samples. Fungal load ranged from 0 to 13140 CFU/g, and the most prevalent species/genera were *F. graminearum* complex (71.1%), *Penicillium* sp. (11.6%), *Cladosporium* sp. (8.8%), and *Fusarium poae* (3.6%). In addition to these species, we also isolated *Aspergillus* sections *Circumdati*, *Nigri* and *Aspergilli*, and *Mucor* and *Rhizopus* genus albeit at a lower abundance.

The data obtained showed that, besides high fungal contamination, mycotoxins contamination is probably a reality, particularly in the final product since mycotoxins resist to all the processing operations including thermal treatment. Additionally, data claimed attention for the probable co-exposure to fungi and mycotoxins of the workers in feed industries.