WOOD SHAVINGS: From an occupational hazard in poultry facilities to a global health concern

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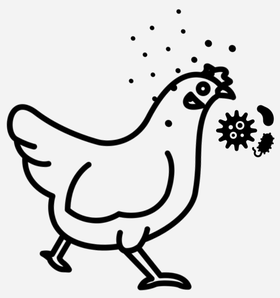
Introduction

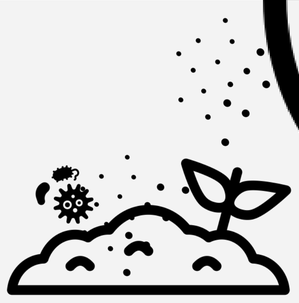
- Poultry production has been found to constitute a serious **threat to global health** due to **microbial contamination** (Awad et al. 2010).
- **Chicken bedding material** may be an underestimated source of pathogens (Gomes et al., 2022)

- Currently, there is a **lack of information** concerning the impact of the bedding material used on **fungal development** (Gomes et al., 2022).

WORKERS HEALTH



ANIMAL HEALTH



ENVIRONMENTAL HEALTH

Objectives

Characterize fungal exposure in poultry facilities during birds'growth cycle

1.Sampling

Poultry pavilions
(n =14)

Sampling methods

Active

MAS-100

Passive

Surface swabs

EDC

Material collecion

Bedding

Feed

Strategy

Sampling frequency:

Empty pavilion | 1st week | 2nd week | 3rd week

2 Seasons:

Summer

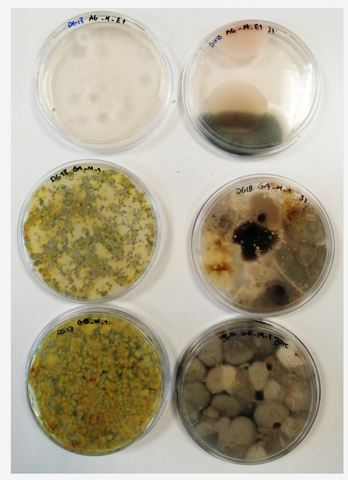
Winter

2.Analysis

Microbial characterization

Culture-based methods

- Microbial quantification
- (Fungi and bacteria)
- Fungal identification
- Fungal resistant profile



Molecular detection (qPCR)

- Toxigenic fungi

Metabolites assessment

- Mycotoxins detection

Cytotoxicity assessment

- Lung and kidney cells

Expected results

1. CHARACTERIZE FUNGAL EXPOSURE IN POULTRY PAVILIONS
2. DEFINE GUIDANCE VALUES OF OCCUPATIONAL EXPOSURE
3. IDENTIFY PRIORITY AREAS FOR ACTION
4. FORMULATE GUIDELINES AND RECOMMENDATIONS TO PREVENT FUNGAL EXPOSURE IN POULTRY BUSINESS

Conclusion

The application of the **One Health approach** will promote a **safe environment for workers and animals in poultry** facilities, and **reduce environmental impact**

SDGs will be supported

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