

Pulmonary Aspergillosis

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Etiology

Aspergillosis is caused by fungi in the *Aspergillus* genus. Poultry typically develop clinical infection due to *Aspergillus fumigatus*. *A. fumigatus* is often found in soils, grains, and decaying organic material. It is able to grow at 9°C to 55°C, and survive up to 70°C. Growth is rapid in warm, humid environments. Fungal growth is inhibited by most commercial disinfectants.

A. fumigatus produces mycotoxins that contribute to the severity of clinical infections.

Epidemiology and Transmission

Aspergillosis can occur in any avian or mammal species, including humans. Humans require a larger concentration of fungal particles to be inhaled to cause clinical infection, and usually only occurs in immunocompromised individuals. Acute aspergillosis affects young birds, and often causes high mortality. Chronic aspergillosis affects older birds, such as turkey breeders and layers, and does not usually result in high mortality.

There is an increased risk of an *A. fumigatus* infection in dusty environments or barns with mouldy litter or feed. The only route of transmission is direct contact with fungal spores present in the environment, either by inhalation or contamination of incubating eggs.

Clinical signs

- Gasping
- Increased respiratory rate
- Increased thirst
- Decreased feed intake
- Increased mortality

Treatment

No treatment is available for affected birds. A post-mortem examination is necessary to rule out other potential causes of mortality, such as colibacillosis or respiratory viruses.

Changes in management practices can be helpful to reduce the level of exposure of *A. fumigatus* to birds. Improved barn ventilation and removal of contaminated litter and feed are essential for reducing pathogen load. Careful removal of litter is required to avoid further infection.

Prevention

If flooding occurs in the barn, promptly remove any soaked bedding to reduce the risk of mold formation. If mold is already present in the litter, carefully remove the affected material and maintain appropriate temperature and humidity levels to limit the growth of *Aspergillus fumigatus* spores.

Resources

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