

## What are mycotoxins?

Mycotoxins are toxic metabolites produced by fungi (moulds) which grow on animal feeds including corn and corn by products such as DDGS or corn gluten meal and soyabean meal. Hundreds of mycotoxins have been identified and one mould species can produce many different types.

## Negative effects of mycotoxins in poultry

**Chronic exposure:** Quite often problems are due to ingestion of relatively low levels of mycotoxins and include increased morbidity, inhomogeneous performance, decreased feed intake, increased incidence of feed refusal, reduced weight gain and poorer feed conversion efficiency. In breeders lower hatchability and fertility are common symptoms.

**Acute exposure:** Consumption of high levels of mycotoxins may give rise to symptoms including oral, dermal and gizzard lesions, fatty liver syndrome, reduced egg production and egg weight, hatch defects and higher mortality rates.

## Diagnosis of mycotoxin issues

Symptoms are often either sub-clinical or are non-specific and easily confused with other diseases. Decreased performance is frequently an indicator that mycotoxins are implicated. Feed can be tested for mycotoxins but the accuracy of sampling and the cost of routine testing limit its practicality at farm level.

## Mycotoxin threat to poultry?

Modern poultry operations are under enormous pressure to produce chicken meat and eggs for the lowest possible cost. Feed conversion, growth rate, mortality and hatchability are all monitored carefully and strategies are constantly reviewed to maximize efficiencies. Final effects of mycotoxins in poultry are dependent upon the age, physiological state and nutritional status of the birds at time of exposure.

### All poultry species and categories



#### Common symptoms:

- Increased morbidity
- Higher mortality rates
- Increased water intake
- Decreased feed intake or feed refusal
- Impaired FCR
- Inhomogeneous performance
- Impaired feathering
- Digestive problems/diarrhoea
- Nervous syndrome (abnormal behavior)
- Oral and dermal lesions such as comb necrosis, black tongues, gizzard ulcers and haemorrhages
- Pale bird syndrome
- Liver, spleen, kidney enlargement
- Bursa of Fabricius and thymus size reduction
- Fat liver syndrome, liver necrosis

### Breeders/parent stocks

#### Layers



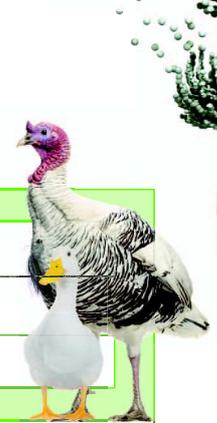
#### Common symptoms:

- Increased incidence of ovarian cysts
- Vent enlargement
- Decreased egg shell quality
- Reduced egg production
- Reduced egg weight
- Blood and meat spots in eggs
- Impaired fertility
- Hatch defects
- Altered embryo development
- Altered sexual maturity
- Decreased testicle and ovary size
- Impaired semen quality

### Broilers

### Turkeys

### Ducks



#### Common symptoms:

- Increased early mortality
- Reduced weight gain
- Retarded growth
- Leg weakness, impaired bone quality, rickets
- Subclinical coccidiosis
- Higher incidence of bacterial outbreaks