Impact of Mycotoxins on Breeders

Mycotoxins are produced by moulds in the field, at harvest and during storage. They affect animal performance and producer profitability in a number of ways.

How do mycotoxins affect breeders?

**REPRODUCTION**
- Lower egg production and decreased egg quality
- Increased embryonic mortality
- Poor fertility and hatchability
- Decreased chick viability

**GUT HEALTH**
- Damage to gut integrity (decreased villi height and surface area)
- Lower feed intake
- Poor intestinal digestion and absorption of feed
- Inconsistent faeces quality
- Necrotic enteritis/cocci infection/bacterial infections

**IMMUNITY**
- Poor antibody production/vaccine titers
- Reduced cell-mediated immunity
- Altered cytokine profile
- Increased duration of diseases
- Increased mortality rates

**ORGAN DAMAGE**
- Gizzard erosions
- Oral lesions, ulcers and plaques
- Liver and kidney damage
- Liver enlargement or fatty liver
- Bile duct hyperplasia
- Uric acid crystals in kidneys and joints (gout)

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**How much can mycotoxins cost breeders?**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Savings/Week/Bird</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower egg production and decreased egg quality</td>
<td>$0.35 decrease in profit/hen/week</td>
</tr>
<tr>
<td>Increased embryonic mortality</td>
<td>12.8% increase in late embryonic mortality</td>
</tr>
<tr>
<td>Poor fertility and hatchability</td>
<td>10.1% increase in early embryonic mortality</td>
</tr>
<tr>
<td>Decreased chick viability</td>
<td>12.9% decrease in hatchability</td>
</tr>
</tbody>
</table>

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**What you could save with the Alltech Mycotoxin Management Program**

<table>
<thead>
<tr>
<th>Impact</th>
<th>Savings/Week/Bird</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower egg production and decreased egg quality</td>
<td>0.01 increase in number of eggs/week/bird</td>
</tr>
<tr>
<td>Increased embryonic mortality</td>
<td>17.8% increase in hatchability</td>
</tr>
<tr>
<td>Poor fertility and hatchability</td>
<td>9.8% decrease in early embryonic mortality</td>
</tr>
<tr>
<td>Decreased chick viability</td>
<td>12.9% decrease in late embryonic mortality</td>
</tr>
<tr>
<td>Poor antibody production/vaccine titers</td>
<td>$0.24 increase in profit/bird/week</td>
</tr>
</tbody>
</table>

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**RESEARCH**

Total number of birds = 450 | birds fed control diet = 135 | birds fed mycotoxin contaminated feed = 265 | birds fed mycotoxin contaminated feed + MYCOSORB = 50

References: Qureshi et al., 1998; Brake et al., 1999; Brake et al., 2000; Brake et al., 2002; Yegani et al., 2006; Girgis et al., 2010

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ANIMALS ARE YOUR BUSINESS. PROTECTING THEM IS OURS.
MYCOSORB A+® reduces mycotoxin absorption, negating the damaging effects of mycotoxins on the health and performance of animals.

- A proven, broad spectrum mycotoxin binder, which tackles mycotoxin challenges as a whole rather than dealing with individual mycotoxins
- Fast acting, interacts with mycotoxins within 10 minutes
- Effective at a low inclusion level
- Proven by scientific research
  - 150 peer-reviewed published studies
  - 102 animal trials
  - 21 in-vitro mode of action

MYCOSORB A+®, from ALLTECH®, offers producers a solution that limits the effect of more mycotoxins than ever before.

The graph on the right shows the risk associated with mycotoxin contamination in a particular feed sample with and without MYCOSORB A+®.

**TAKE THE MYCOSORB A+® CHALLENGE**

Feeding rate: 0.5 - 2 kg/t

Feeding rate varies based on mycotoxin risk level in feed and life stage of the animal.

Alltech’s Mycotoxin Management Program is designed to reduce risk while improving performance and profitability for individual animals. Actual results may vary. Program response and ROI will depend on specific farm scenarios.