

Mycotoxins

Fact Sheet



The Challenge

Mycotoxins are toxic substances that are produced through growth of certain fungal species on grains and other materials in the environment and have the potential to adversely affect animal and human health if eaten in sufficient quantity.

High Risk Conditions

In the UK, contamination by the fungi *Fusarium* species is common, especially in moist, cool conditions. *Fusarium* species need high relative humidity (more than 70%) or grain moisture of more than 22% for growth. These species produce:

- **Zearalenone (commonly referred to as ZON or ZEA)**
- **Deoxynivalenol (commonly referred to as DON)**

At risk are: growing crops (mainly wheat and barley) when there is high rainfall at flowering or pre-harvest; stored grain with a high moisture content; finished feed stored in unsuitable conditions or when left to go stale in feeders in warm, humid buildings.

ZON-sign: gilt left affected with swollen vulva; gilt right is normal

Is my herd affected?

The signs can be difficult to spot sometimes because some pigs are more affected by contamination than others. Below are some key signs for ZON and DON contamination.



ZON contamination

- Unexplained infertility
 - Anoestrus
 - "Not in Pig"
- Vulva swellings in growing pigs
- Prolapse "outbreaks"



DON contamination

- Reduced feed intake, lower growth rate
- Feed refusal
- Vomiting
- General restlessness
- Increased vices

Mycotoxins

What can you do?

Testing

- SAC's Veterinary Investigation team can help.
- We can test feed samples if you take "representative" samples from your different feeders.
- Pigs can be tested by your vet taking blood samples while pigs are on the suspect feed.
- Both ZON and DON can be tested in serum.
- DON is largely excreted in urine so that is a good sample (for example, checking sows in the farrowing house where urine samples are easier to obtain).
- For general screening of finishing pigs or cull sows for ZON, bile samples can be collected after slaughter (arrange this with QMS).
- ZON is mainly excreted in bile and this gives a good indication of feed contamination in the week before slaughter.



What can you do on-farm to prevent problems?

- Never take the risk of feeding mouldy feeds.
- Use good quality feed from a reputable supplier and store it in the correct way (cool, dry conditions).
- Home mixers growing their own cereals need to ensure that grain is harvested with a low moisture content, dried, cooled with storage free of infestation, vermin and weather tight to allow the grain to be stored safely.
- Remember to inspect grain storage bins, mixing equipment, feed lines and feeders for caking, moulding or musty odours.
- On a regular basis, make a point of removing all contaminated feed, clean the equipment and decontaminate storage areas with hypochlorite (laundry bleach) to kill off fungal contamination.

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