

Mycotoxins risk for beef cattle and sheep

Mycotoxins are chemicals which are produced by moulds that can detrimentally effect ruminant performance.

They are found in ruminant feeds including grain, straw and conserved forages.

There are around 400 types of mycotoxins with deoxynivalenol (DON), T-2/HT-2, zearalenone, aflatoxins, fumonisins and ochratoxin-A regarded as the most significant in livestock production.

Mycotoxins routinely occur in feed but usually at concentrations that do not impact on animal health and performance.

Financial impact

Mycotoxins can reduce farm profits through:

1. Reduced crop yields
2. Product rejection
3. Reduced animal performance
4. Increased health issues



Fusarium head blight

Mycotoxin contamination

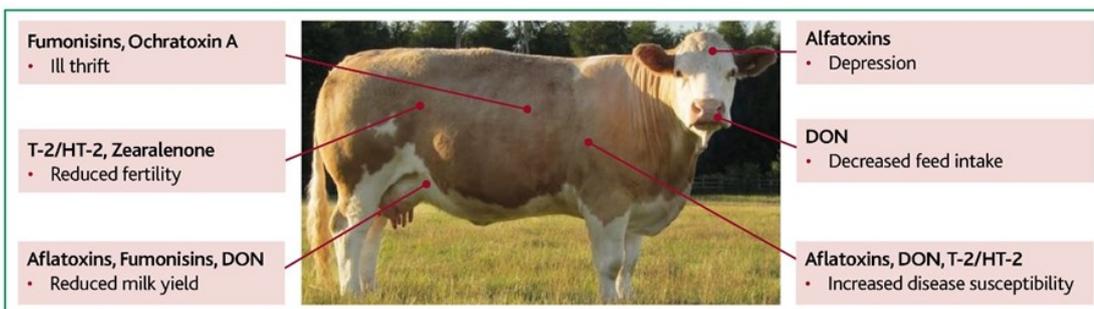
Feeds can become contaminated with mycotoxins before harvest and during storage with mycotoxin production being influenced by temperature, carbon dioxide and moisture levels. Generally mycotoxins are most likely to cause problems in warm, wet conditions.

Cattle and sheep are protected from some mycotoxins due to the natural function of the rumen bacteria. However, some mycotoxins including the fumonisins, aflatoxins and ochratoxin-A can resist this, and prolonged exposure can impair the normal function of the bacteria.

Symptoms

Symptoms of mycotoxin contamination in ruminants include reduced feed intake and milk yield as well as increased disease susceptibility (Figure 1). Due to the varied and complex nature of animal feeds it is common to find several

mycotoxins in one batch of contaminated feed. This can lead to a combination of the symptoms, despite individual toxins being within guideline limits.



Reducing the risk

Producers that feed home-grown grain and conserved forage may be at increased risk of introducing a mycotoxin challenge to their animals. The risk can be reduced by drying grain at harvest to 15% moisture content or less, storing straw under cover and employing good silage making and storing techniques. Be aware that bedding straw can also be a source of mycotoxins.

Table 1 : Best practices to avoid the contamination of feedstuffs

Crop Production	Crop Storage
Avoid growing cereals after maize	Ensure grain is dried to correct moisture content (<15%)
Avoid min-till between successive cereal crops and particularly after maize	Ensure correct moisture content at time of ensiling
Select <i>Fusarium</i> resistant crop varieties	Make sure silage is adequately compacted and covered to prevent exposure to oxygen
Optimise crop growing conditions to minimise plant stress	Ensure big baled silage is adequately wrapped and handled with care to prevent damage to the wrap
Try to avoid lodging of crops	Straw should be kept dry and out of the rain
Optimise combine settings to remove light, shrivelled grains	Avoid inclusion of mouldy feeds in rations
Avoid harvest delays of both grain and straw	Thorough cleaning of crop storage between batches

If at any time you suspect mycotoxin exposure in your cattle, speak to your vet for further advice.

Top Tips

- Beware of damp conditions during crop harvest and storage, as this will increase the risk of mycotoxins
- Avoid feed, forage or bedding with any visual moulds or spoilage
- Consult a vet if cattle show signs of ill health or poor performance. Note whether this can be linked to a dietary or management change
- If the decision is made to add a mycotoxin binder to the ration, then monitor the impact on stock performance to assess cost effectiveness and withdraw the binder if there is no response