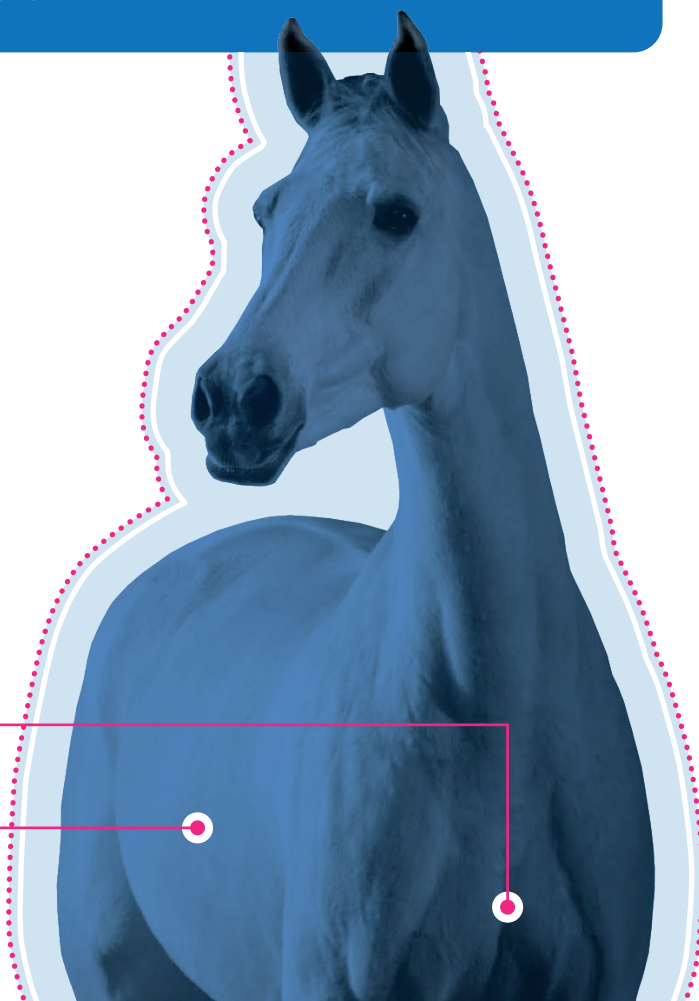




Ultrasorb E is a specifically formulated mycotoxin remediator, that binds, transforms, and degrades mycotoxins found in equine feeds.

Ultrasorb E combines a live yeast strain, yeast cell components and multiple clay binder sources to provide a complete solution for mycotoxin removal and optimal equine gut health. It can remove a wide range of mycotoxins commonly found in UK equine feeds, such as the fusarium derived T2 toxin and HT2 toxin which have found to be contributing the highest risk.

- ✓ Preventative control of multiple mycotoxins, particularly T2 and HT2.
- ✓ Binds and transforms mycotoxins.
- ✓ Improves feed palatability and aids to reduce feed sorting.
- ✓ Maintains nutrient levels in feeds.
- ✓ Support improvements in equine health and performance.
- ✓ Reduce neurological, hormonal, and immune impacts.
- ✓ Helps to reduce respiratory irritation and RAO.
- ✓ Lowers the irritation impact of moulds in the gut and reduces colic like symptoms.



What is the mycotoxin risk in equines?

Mycotoxins are harmful substances generated from the secondary metabolic processes which occur naturally in a wide variety of fungi (moulds). Equines can be frequently exposed to these mycotoxins through a variety of feed ingredients and bedding and if not treated they can negatively impact their health and performance.

Over 75% of tested horse feeds tested positive for mycotoxin presence, of which the most prevalent mycotoxins were T2 and HT2 – these were also found to be the most damaging. **Even low levels of mycotoxin contamination and therefore ingestion can have harmful impacts** upon equine health, performance, and trust in their feed sources.

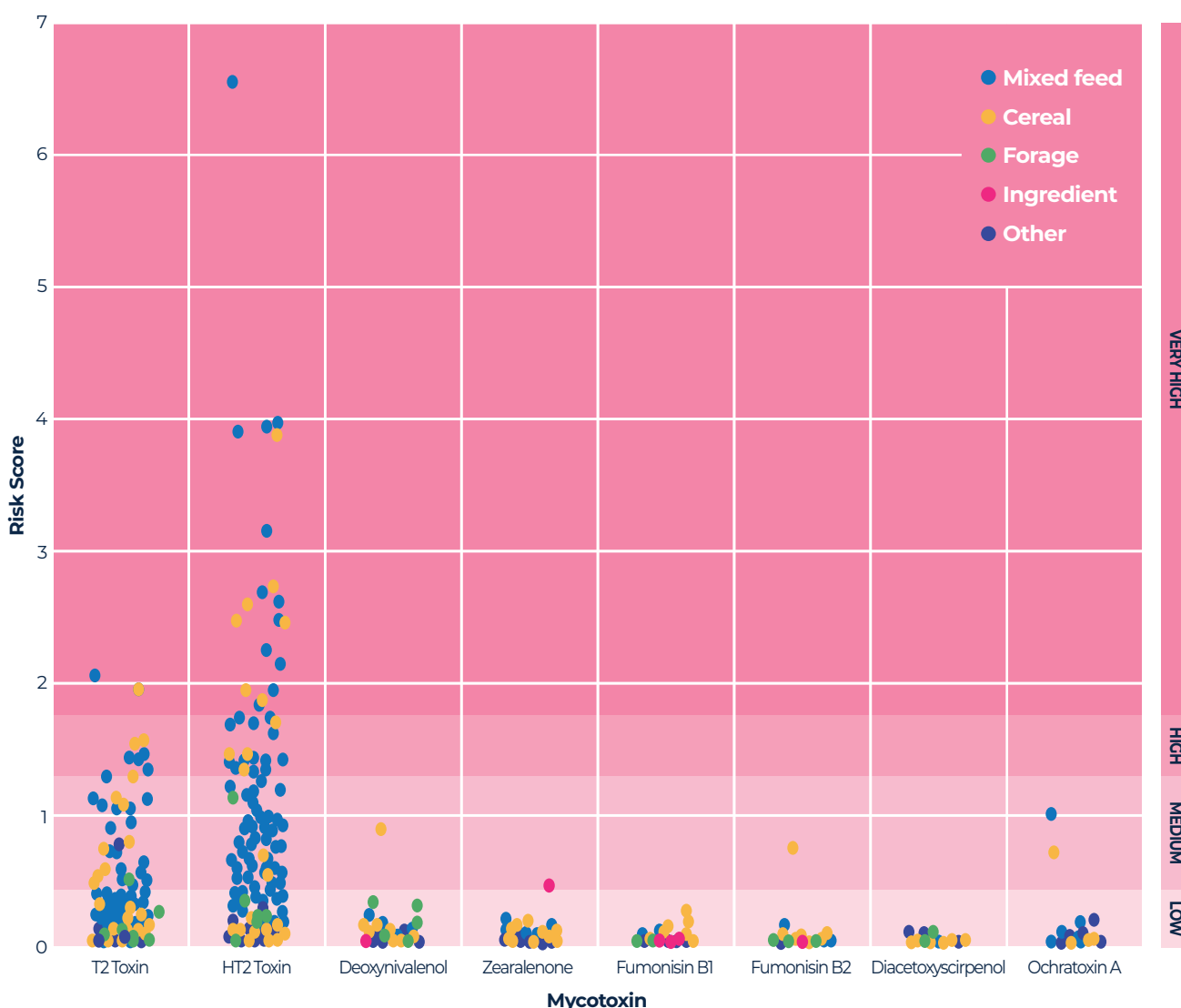
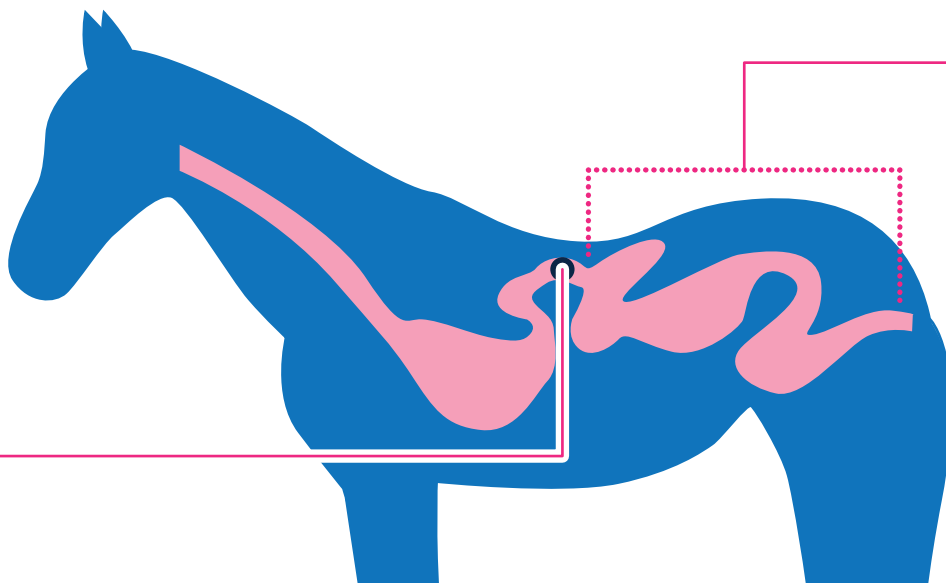


Figure 1: Mycotoxin Risk Levels in testing feedstuff for equines, 395 samples tested with 81% testing positive for mycotoxin contamination.

What is the mycotoxin risk in equines?

As equines are monogastric hindgut fermenters, they absorb most of their nutrients from the **small intestine** before microbial fermentation in the **hindgut**.

Therefore, ingested mycotoxins are available for absorption before fermentation microbes can degrade them. This leaves equines very susceptible to negative impacts of mycotoxins and risk level of mycotoxins in equine feed needs to be lower than other species, such as ruminants.



Importance of Species Specificity Multi-Component Remediator

Ultrasorb E contains the simple clay binders essential for removal of polar mycotoxins such as aflatoxins and contains yeast components to give it the ability to transform and degrade prevalent nonpolar mycotoxins DON and ZON. **Ultrasorb E** has been formulated to be highly effective in acidic environments such as the stomach.

However, it is the inclusion of **additional** *Saccharomyces cerevisiae* live yeast that is key in making **Ultrasorb E** specific to target mycotoxins that pose highest risks to equines. The live yeast promotes enzymatic degradation of T2 and HT2 mycotoxins before they have opportunity to reach the small intestine and be absorbed across the gut wall into the equine bloodstream.

Whilst there may be some yeast inclusion already in the feed additives provided in equine diets that will be supporting gut health, stabilising gut pH, improving epithelial integrity and maintaining the gut's natural defence mechanisms against high toxin loading – it is important to remember that not all yeasts supplemented are live. Additional live yeast is required to take on the specific action of T2 and HT2 degradation therefore two live yeast inclusions are key to continue to complete their own specific roles in the equine gut in the maintenance of gut health and provision of mycotoxin defence.

Mycocheck – your first line of defence against hidden feed toxins

It is therefore important to know your enemy; which mycotoxins are present in equine feed and how many rise above the risk level.



Volac's Mycocheck service uses the gold standard confirmatory test to determine presence of over 30 mycotoxins in equine feedstuffs associated with negative impacts on health and performance. Unlike quick on-site tests kits, the advance lab-based method can also screen for masked mycotoxins and endotoxins that may be left undetected by other analysis methods.

Following analysis, Mycocheck provides a comprehensive two-page report which can assist decisions as to whether a raw material is a minimal risk and safe to feed at any level per head per day or if further considerations are required as to its feeding levels. Remembering that some equine feedstuffs that may carry a high toxin risk, have higher value in the nutrition strategy of the animal even with low level inclusion in the equine diet.

The level of mycotoxin ingestion per head per day is key, and what ultimately puts any equine at risk of health and performance deterioration. Whilst there are legislative maximum permitted levels (MPLs) for mycotoxin inclusion into complete feed and co-products, these levels are taken as when a mycotoxin poses a health and safety risk. Performance is likely to be affected before these higher levels of contamination, therefore the Mycocheck service has published its own "High Risk Thresholds" for each mycotoxin specific to equine.

Mycotoxin	ppm		
	MPL* Complete Feed for horses (calculated total)	MPL* cereal co-products	Volac "High" risk threshold
Deoxynivalenol (DON)	71	4	2
Zearalenone (ZEA)	14.2	1	0.4
Fumonisin B1+B2 (FUM)	14.2	2.5	2
Ochratoxin A (OTA)	0.3	0.05	0.1
T-2 & HT-2	2.84	3	0.25

Figure 2: Volac severity scale vs Legislative MPLs