

BRIEFING DOCUMENT**Fumonisin mycotoxins**

Updated January 2023

Summary

Fumonisin are *Fusarium* mycotoxins produced by the fungi *Fusarium verticillioides* and *Fusarium proliferatum*. Fumonisin mainly affect maize and there are legal limits for fumonisin in maize and maize products but not in wheat.

Background

Mycotoxins are secondary metabolites produced by moulds and fungi that are toxic to humans and animals if consumed in enough quantity. Different fungi produce different mycotoxins and can be more suited to specific host cereal species, so the spectrum of mycotoxins commonly found in wheat are not likely to be the same as those commonly found in other cereals. Fumonisin mycotoxins occur predominantly in maize and their occurrence is associated primarily with *Fusarium verticillioides* and *Fusarium proliferatum*, both of which can cause *Fusarium* head blight in wheat but are rare species in the UK.

There are four main types of fumonisin, these are B₁, B₂, B₃ and B₄. Only Fumonisin B₁ and B₂ are considered in fumonisin maximum levels.

Legal limits for fumonisin

The principal piece of legislation regarding mycotoxins is retained Commission Regulation (EC) No. 1881/2006, as amended. This Regulation sets out specific rules in relation to mycotoxins and other contaminants and includes specific maximum levels for certain mycotoxins in individual foodstuffs based on their toxicity and their contribution to consumers' diets.

This legislation sets out the maximum levels for fumonisin concentration in cereals. There are levels for maize and maize products, but not for wheat, wheat flour or wheat-based products.

	GB, NI and EU MLs
Product category	Sum of Fumonisin B1 and B2 (µg/kg)
Unprocessed maize	2000
Maize flour/ meal/ grits/ germ/ refined oil	1000
Maize-based foods for human consumption (e.g.	800
Processed maize based foods for infants and young	200
Wheat or wheat processed wheat- based products	No ML exists

The European Food Safety Authority (EFSA) recently reviewed the toxicity of fumonisin, but this was in relation to exposure of horses, pigs and poultry to these mycotoxins and is unlikely to impact the MLs for maize food products.

Future work

UK Flour Millers will continue to report on the legal levels for fumonisin and monitor any research in this area that has implications for milling wheat.