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Euromaisiers Position Paper

T2 and HT2 toxins

Euromaisiers members have carried out a monitoring for the mycotoxins T2 and HT2 over the past ten years. The data have been collected from several companies using maize from different geographic locations and over several different harvest years. The main sources relate to maize from France, Argentina and to a lesser extent Italy and Brazil.

In general the levels found have been low – the overwhelming majority below the limit of quantification. Results are summarized below.

T2 + HT2 combined (LOQ 50ppb combined; 50ppb for T2; and 10ppb for HT2)

Harvest year	Total samples	Maize				Maize Grits		Maize flour		Animal feed	
		<50ppb	50-100ppb	100-200ppb	200-300ppb	<50ppb	50-100ppb	<50ppb	50-100ppb	<50ppb	50-100 ppb
1999-2003	188	47[a]	-	-		51[c]	-	56[c]		34[b]	
2004	64	18	4	2		19	-	20	1	-	-
2005	105	52[c]	2	2		23	-	20	-	1	5
2006	227	121	4	3		49	-	45	1	1	1
2007	32	13	2	-	2	7	-	10	-	-	-
2008*	94	35	1	-	-	30	-	28			-
2009*	114	48	1	-	-	42	-	23	-	-	-
Total	824	334	14	7	2	221	-	202	2	36	6

[a] 1 sample contained HT 2 at a level 10-20 ppb
b 3 samples contained HT2 at a level between 10-20ppb
c No samples contained HT2 >10ppb

*It should be noted that for reasons of consistency results are quoted for T2 + HT2 combined (LOQ 50ppb combined; 50ppb for T2; and 10ppb for HT2). However, the limits of detection have been much lower in recent years. In 2009, for example, depending on the laboratory used the limit of detection quoted was 10ppb for both T2 and HT2, and in some cases was 1ppb for T2 and 2ppb for HT2. The overwhelming majority of test results were below 10ppb. It is clear that the real presence of these mycotoxins in maize and maize products is far below 50ppb, and probably an order of magnitude lower.

Although some data were collected in paired samples, the presence of T2 and HT2 was not sufficiently high to make any assessment of the effect of processing.

Nevertheless, looking at the dataset overall, there appears to be a tendency towards higher level in the animal feed co-product stream, which would suggest that the milling process concentrates mycotoxins in this stream. Whilst this would be consistent with observations for other mycotoxins, the data are not sufficiently robust to quantify this effect.

Levels in the human food components (grits and flour) appear to be consistently low.

Conclusions and recommendations

In the view of Euromaisiers members, the data do not justify the establishment of maximum limits for T2 and HT2 in maize or maize products. In any event, consumer exposure would appear to be low.

If the Commission and Member States decide that maximum levels for T2 and HT2 are required, Euromaisiers is of the view that it should be limited to the cereals concerned, excluding maize.

Euromaisiers is the representative organisation for the European dry maize milling sector. The industry mills about 1.5 million tonnes of maize each year to produce around 900.000 tonnes "grits" and flour. These are used to make breakfast cereals, snack foods, polenta, beer, in the baking industry, for cereal bars and a range of other foodstuffs (infant food, food for special dietary use). The remaining corn ingredients such as corn germ and pelleted corn meal are valued components for the feed industry.