

Fusarium-toxins



Frans Verstraete
European Commission
DG Health and Consumer
Protection

Provisions

Fusarium-toxins - Food



- Provisions as regards the presence of deoxynivalenol, zearalenone, fumonisins B1 & B2 and T-2 & HT-2 toxin in cereals and cereal products intended for human consumption have been established by Commission Regulation (EC) 856/2005 of 6 June 2005 amending Regulation (EC) No 466/2001 as regards *Fusarium* toxins
- For the purpose of the application of the MLs for *Fusarium*-toxins, rice is not included in “cereals” and “cereal products”
- Mixing non-complying products with complying products is prohibited and also chemical decontamination is prohibited

Provisions

Fusarium-toxins - Food



- Measures applicable from 1/07/2006
- No maximum levels for nivalenol, 3-AC-DON, 15-AC-DON
- Unprocessed: marketed for first stage processing
- First-stage processing: any physical or thermal treatment , other than drying, of or on the grain (cleaning and sorting not considered as first stage processing)
- Review of provisions foreseen by 1 July 2008

Maximum levels - Food *Fusarium*-toxins – DON



- Deoxynivalenol (DON)
 - unprocessed cereals with the exception of durum wheat, oats and maize: 1250 µg/kg
 - Unprocessed durum wheat and oats: 1750 µg/kg
 - Unprocessed maize: for the time being no ML – eventually 1750 µg/kg applicable from 01/07/2007 onwards if no maximum level has been established in the meantime
 - Cereal Flour, including maize flour, maize grits and maize meal 750 µg/kg
 - Bread, pastries, biscuits, cereal snacks and breakfast cereals: 500 µg/kg
 - Pasta (dry) 750 µg/kg
 - Processed cereal based food for infants and young children and ingredients for the manufacture of these products: 200 µg/kg

Maximum levels - food

Fusarium-toxins - ZEA



- Zearalenone

- unprocessed cereals with the exception of unprocessed maize: 100 µg/kg
- unprocessed maize: for the time being no ML – if no maximum level has been established in the meantime : 200 µg/kg applicable from 01/07/2007 onwards
- Cereal Flour, except maize flour: 75 µg/kg
- Maize flour, maize meal maize grits and refined maize oil: for the time being no ML – if no maximum level has been established in the meantime: 200 µg/kg applicable from 01/07/2007 onwards

Maximum levels - food

Fusarium-toxins - ZEA



- Bread, pastries, biscuits : 50 µg/kg
- Maize snacks and maize based breakfast cereals: for the time being no ML – if no maximum level has been established in the meantime: 50 µg/kg applicable from 01/07/2007 onwards
- Other cereal snacks and breakfast cereals: 50 µg/kg
- Processed maize based food for infants and young children and ingredients for the manufacture of these products: for the time being no ML – if no maximum level has been established in the meantime: 20 µg/kg applicable from 01/07/2007 onwards
- Other processed cereal based food for infants and young children and ingredients for the manufacture of these products: 20 µg/kg

Maximum levels - Food *Fusarium*-toxins – FB1 + FB2



- Fumonisin B1 + B2
 - No maximum level established for the time being – if no specific level is fixed before 1 October 2007, the following levels will apply:
 - unprocessed maize: 2000 µg/kg
 - Maize grits, maize meal, maize flour and refined maize semolina: 1000 µg/kg
 - maize based food for infants and young children and baby food: 200 µg/kg (on dry matter basis)
 - Other maize based foods for direct human consumption: 400 µg/kg

Maximum levels - Food

Fusarium-toxins: T-2 + HT-2



- T-2 + HT-2 toxin
 - Reliable occurrence data very limited
 - Occurs in particular in oats
 - No internationally validated methods of analysis
 - For the time being no ML proposed
 - Foreseen to, if appropriate, to establish maximum levels for T-2 and HT-2 toxin by 01/07/2007

Recommendation Prevention *Fusarium*-toxins



- Draft Recommendation on the prevention and reduction of *Fusarium* – toxins in cereals and cereal products
 - Risk factors to be considered for inclusion in Good Agricultural Practices (GAP)
 - Contamination by *Fusarium*-toxins of cereals can be imputed to multiple factors
 - Integrated approach addressing in a reasoned way all possible risk factors taking into account the local situation

Fusarium -toxins - Feed



- EFSA opinions on deoxynivalenol (2 June 2004), zearalenone (28 July 2004), fumonisins (22 June 2005), ochratoxin A (22 September 2004)
- Animal health effects critical effects – impact public health minor as carry-over from feed to food is limited
- Two-step approach: Recommendation on increased monitoring combined with guidance/orientation values as first step – evaluation in 3-4 years time to consider possible further legal measures in the frame of Directive 2002/32/EC

Mycotoxins - Feed Deoxynivalenol



- Recommended guidance values under discussion
 - Cereals and cereal products 8 ppm
 - Maize by-products 12 ppm
 - Complementary and complete feed: 5 ppm
 - Except for pigs 0.9 ppm
 - Except for calves lambs and kids 2 ppm

Mycotoxins - Feed Zearalenone



- Recommended guidance values under discussion
 - Cereals and cereal products 2 ppm
 - Maize by-products 3 ppm
 - Complementary and complete feed:
 - For piglets and gilts (young sows) 0.1 ppm
 - For sows and fattening pigs 0.25 ppm
 - For calves, dairy cattle, sheep and goats 0.5 ppm

Mycotoxins - Feed Fumonisin B1 + B2



- Recommended guidance values under discussion
 - **Maize and maize products** **60 ppm**
 - **Complementary and complete feed:**
 - For pigs, horses, rabbits and pet animals **5 ppm**
 - Fish **10 ppm**
 - Poultry, calves lambs and kids **20 ppm**
 - Adult ruminants and mink **50 ppm**

Mycotoxins - Feed Guidance values



- Specific provision for cereals and cereal products directly fed to animals
- Cereals and cereal products include also cereal forages and roughages
- Maize and maize products include also maize forages and roughages
- Guidance values to be used by feed business operators as guidance for the determination of critical limits in their HACCP system – attention for cereals and cereal products for the production of feed for sensitive animal species.

Recent and future developments - limits



- Consolidation/recast of Commission Regulation 466/2001 of 8 March 2001 setting maximum levels for certain contaminants in foodstuffs
- work initiated – finalisation expected mid 2006

Recent and future developments - sampling



- One single Commission Regulation laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs (replacing directives 98/53/EC, 2002/26/EC, 2003/78/EC and 2005/38/EC)
- Voted in the Standing Committee on 16/12/2005
- Adoption by the Commission and publication in the OJ: beginning of February 2006

Recent and future developments – sampling



- *“An alternative method of sampling may also be applied for cereals and cereal products in cases where it is practically impossible to apply the established method of sampling. This is e.g. the case where large lots of cereals are stored in warehouses or where cereals are stored in silos (8)*
- *(8) Guidance for sampling such lots will be provided in a guidance document available from 1 July 2006 onwards on following website:
http://europa.eu.int/comm/food/food/chemicalsafety/contaminants/index_en.htm*

This Forum



- Legislation foresees that Member States and interested parties shall communicate each year to the Commission the results of the investigations undertaken including occurrence data and the progress with regard to the application of prevention measures to avoid contamination by by deoxynivalenol, zearalenone, T-2 and HT-2 and fumonisin B1+B2. The Commission will make these results available to the Member States.
 - **Fusarium fora on 17 October 2003, 10 March 2004**
 - **3 th Fusarium Forum on 13 January 2006**