Association des Amidonniers et Féculiers

European Commission Fusarium mycotoxins Forum

Brussels

15 - 16 January 2007

Impact of the proposed limits of *Fusarium* mycotoxins in maize for the starch industry

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Who we are

AAF main facts and figures:

- 24 companies
- 72 plants
- AAF Members are located in 20 out of the 27 European countries (except in Luxembourg, Ireland, Malta, Cyprus, Estonia, Lithuania and Slovenia)

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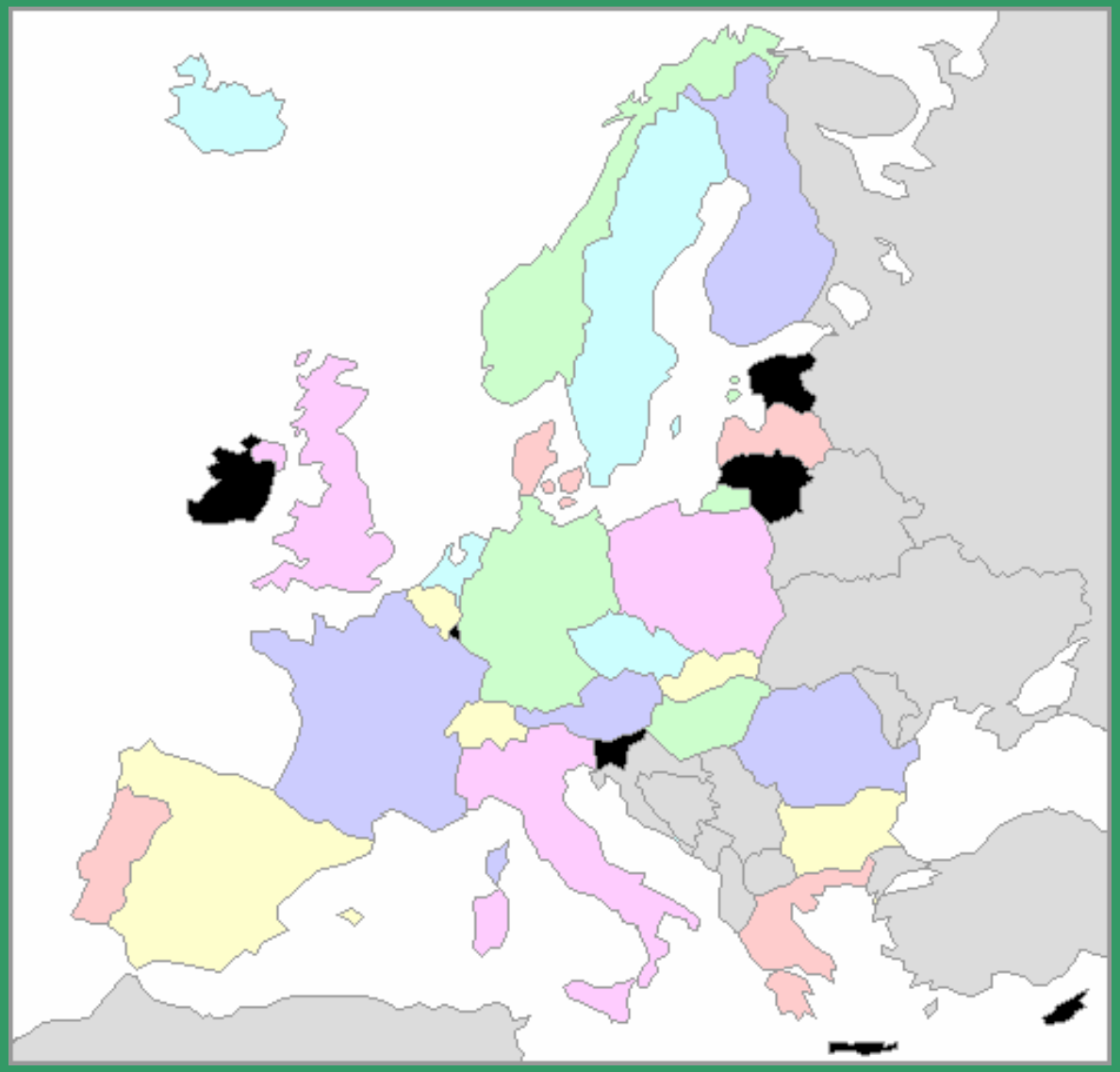
AAF members location



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Raw materials

- The raw materials used to produce starch and starch derived products are: maize, wheat, barley, rice and potato.
- More than 95% of all raw materials processed by the starch industry originates from Europe
- 22.6 million tons of raw materials were used to produce 9.6 million tons of starch products in 2005
- Of which, 7 million tons of maize grain used to produce 4.4 million tons of starch products
- The starch industry only processes food grade maize: it represents 70% of all European food grade maize

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Starch industry applications

Maize
Wheat
Barley
Rice
Potato

- **Food and drinks, including e.g. Baby Foods**

- **Pet food and animal feed**

- **Paper and board**

- **Pharmaceuticals and cosmetics**

- **Industrial applications**

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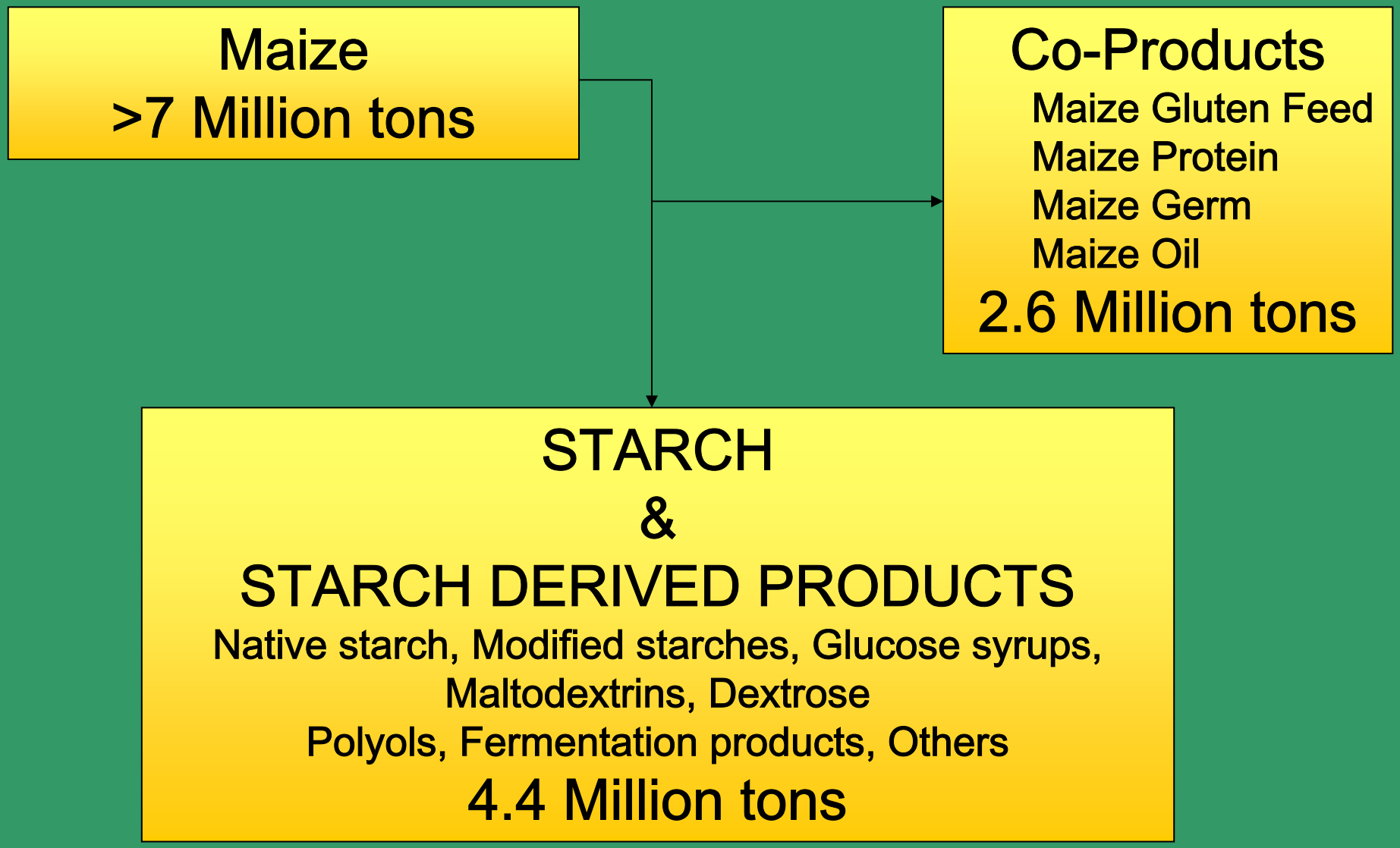
Maize main starch products and co-products



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General views on regulatory limits

Regulatory limits set in the EU legislation:

- should be based on the ALARA principle
- are one option among other risk management tools
- should protect efficiently human and/or animal health without restricting trade
- should be based on sound scientific risk assessments and be proportionate
- should take fully into account the capacity of operators to be able to control the hazards (*Fusarium* mycotoxins are primarily a field-born issue)

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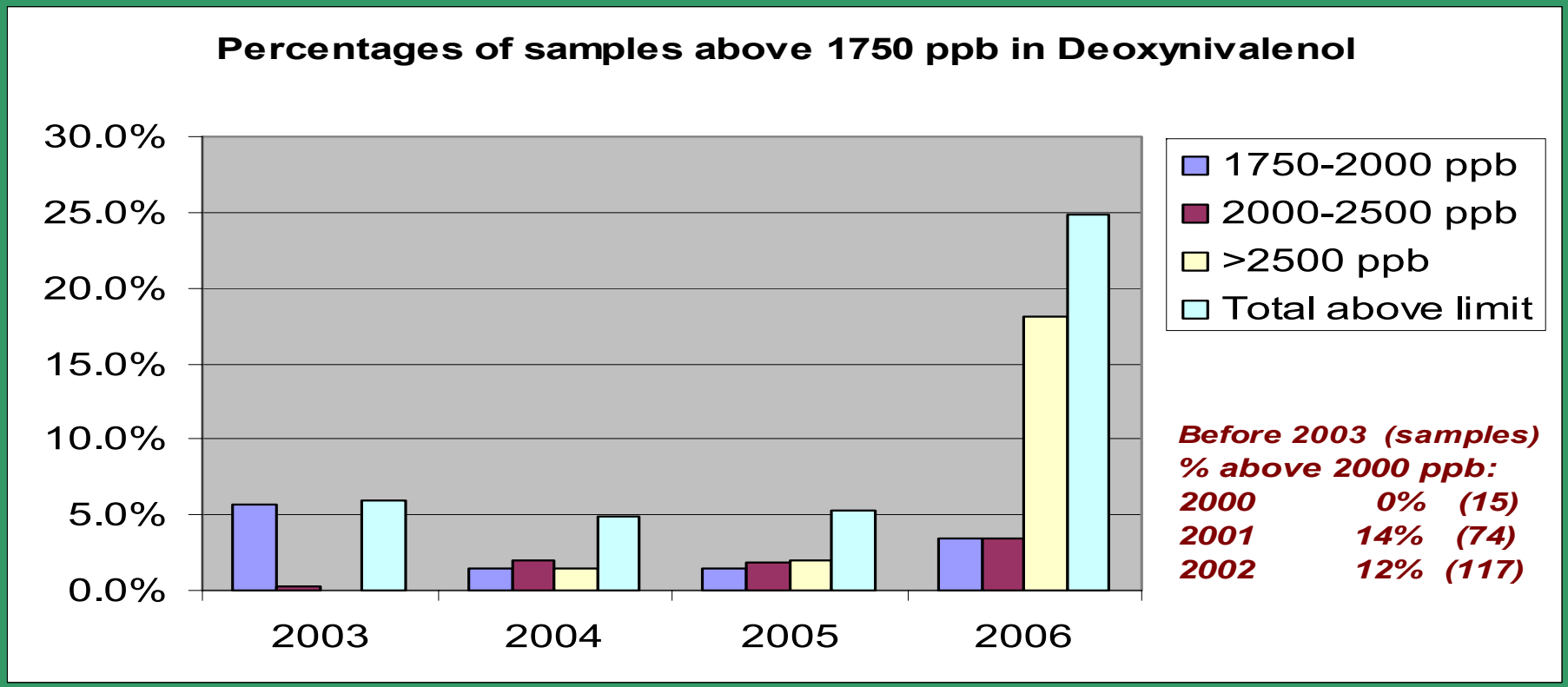
DEOXYNIVALENOL in unprocessed maize (2003-2006)



DON micrograms/kg (ppb)	Number of samples	1750-2000 ppb	2000-2500 ppb	>2500 ppb	Total above limit
2003	296	5.7%	0.3%	0.0%	6.0%
2004	659	1.5%	2.0%	1.4%	4.9%
2005	394	1.5%	1.8%	2.0%	5.3%
2006	177	3.4%	3.4%	18.1%	24.9%

NB: AAF Figures gathered by AAF members in 2006 are preliminary

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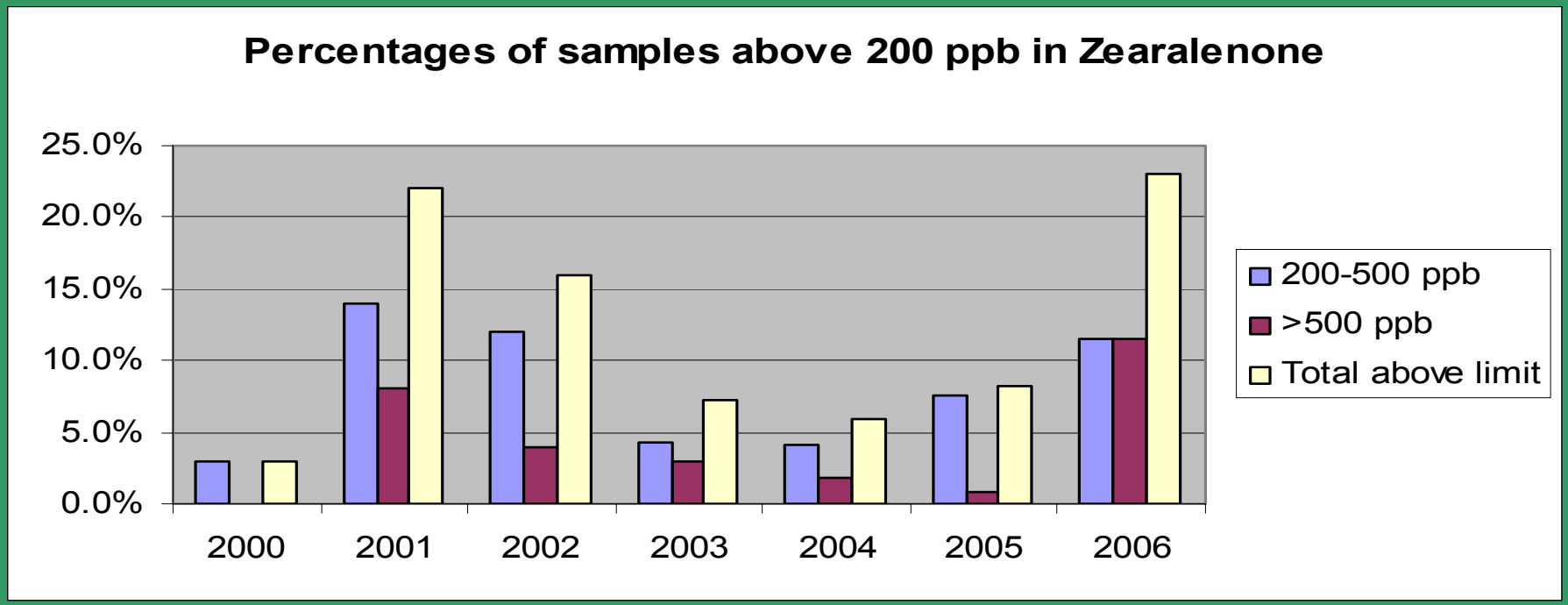
ZEARALENONE in unprocessed maize (2000-2006)



ZEA micrograms/kg (ppb)	Number of samples	200-500 ppb	>500 ppb	Total above limit
2000	35	3.0%	0.0%	3.0%
2001	36	14.0%	8.0%	22.0%
2002	101	12.0%	4.0%	16.0%
2003	311	4.2%	3.0%	7.2%
2004	458	4.1%	1.8%	5.9%
2005	356	7.5%	0.8%	8.3%
2006	174	11.5%	11.5%	23.0%

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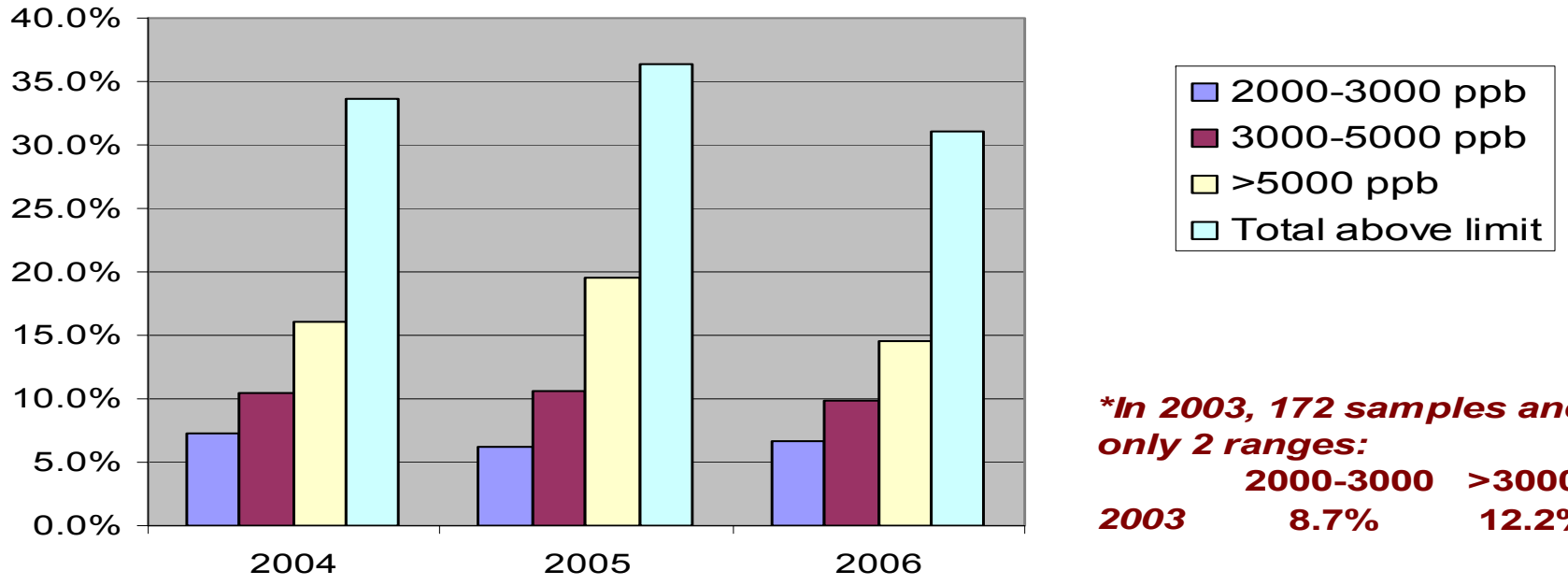
FUMONISINS B1 and B2 in unprocessed maize (2004-2006)



*In 2003, 172 samples and only 2 ranges:

	2000-3000	>3000
2003	8.7%	12.2%

FUMO B1 + B2 micrograms/kg (ppb)	Number of samples	2000-3000 ppb	3000-5000 ppb	>5000 ppb	Total above limit
2004	456	7.2%	10.5%	16.0%	33.7%
2005	435	6.2%	10.6%	19.5%	36.3%
2006	151	6.6%	9.9%	14.6%	31.1%

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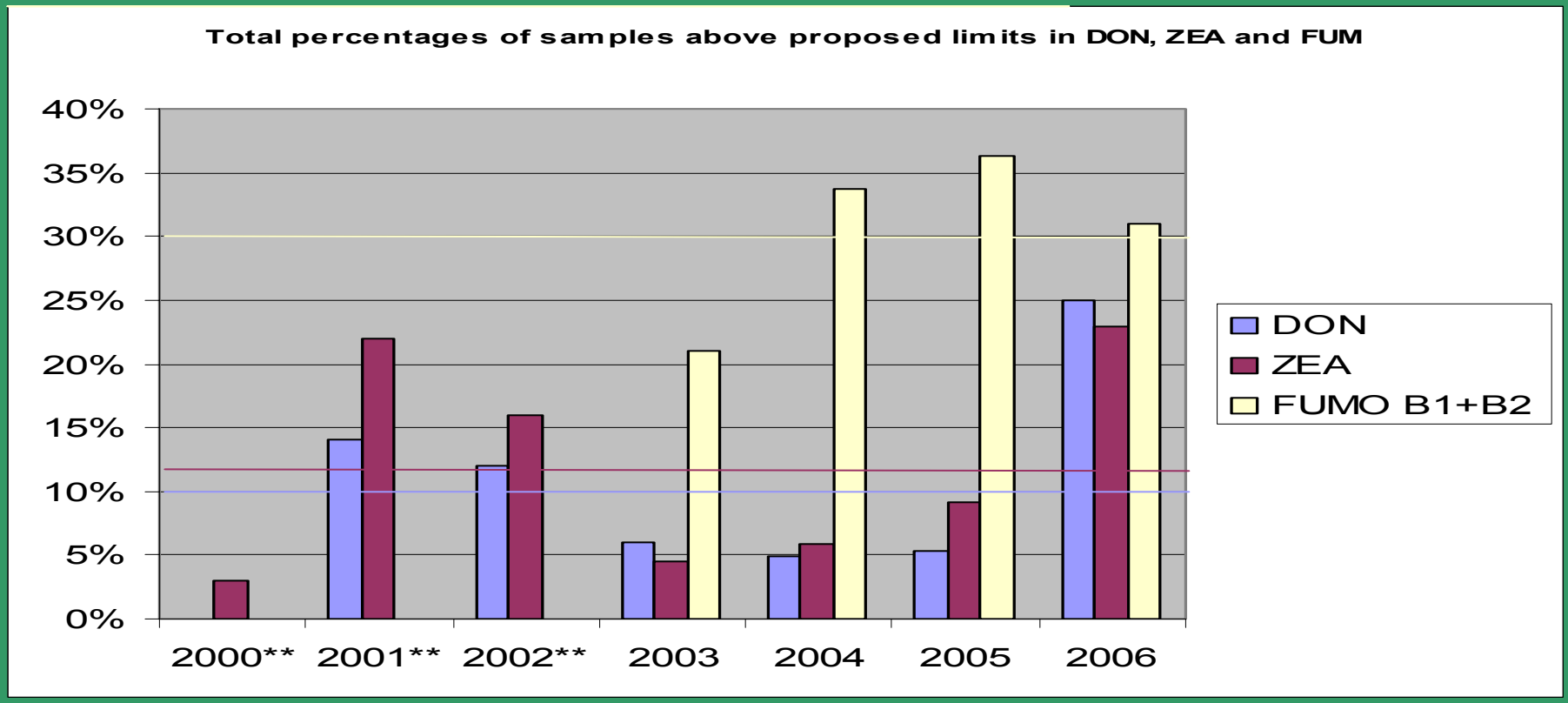
Data summary in unprocessed maize (2000-2006)



Total percentages	Number of samples	2000**	2001**	2002**	2003	2004	2005	2006
DON	1672	0%	14%	12%	6%	5%	5%	25%
ZEA	1471	3%	22%	16%	5%	6%	9%	23%
FUMO B1+B2 *	1214	-	-	-	21%	34%	36%	31%

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Data results on maize starch

- More than 900 analysis done on DON, ZEA and FUMO B1+B2 since 2000
- No starch samples above the proposed limit for final food
- Nearly all maize starch samples are below the limit of detection
- All starch derived products are below the limit of detection for the presence of *Fusarium* mycotoxins

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Data results summary (1/2)

- Due to the maize wet milling process, there are no mycotoxins (below the limit of detection) in starch and starch derived products used as food ingredients
- Results on Fumonisins have been above the proposed limit in the past 4 years (consistently 30% above the proposed limit of 2000 ppb and a significant proportion above 5000 ppb)
- The 2006 crop results emphasize a higher seasonal variability of levels for DON and ZEA, much more than previously anticipated
- For the 2006 crop, more than 50% of the maize delivered to the starch factories is above the proposed limits for DON, ZEA and/or FUMO B1+B2

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Data results summary (2/2)

- Climatic conditions remain the primary factor for the development of *Fusarium* moulds and cause high level of variability and hence discrepancies in different regions
- High levels of Fumonisins are more frequent in Southern Europe
- Levels of DON and ZEA are usually higher in Northern Europe
- 2006 results show that these hazards cannot be easily managed by farmers and that more education, research and development on agriculture practices and plant breeding are needed

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Conclusions

- As a consequence of the 2006 crop situation, all maize trade has already ceased for any delivery after 1st July 2007
- Supplies of maize hybrids (e.g. waxy maize) are contract grown and cannot be sourced elsewhere if part of the contract is outside the *Fusarium* mycotoxins limits
- After the entry into force of the proposed limits, should the 2006 crop situation be repeated, it will become very difficult for the food grade maize supply chain to guarantee sufficient volumes of European conventional maize for the food production
- Current provisions set in Regulation n°1881/2006 for *Fusarium* mycotoxins in maize are simply not achievable in 2007

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Economical framework of healthly conventional supplies of Maize

- The European Starch Industry encourages its maize suppliers to apply preventive measures as set in the Commission Guidelines
- The European Starch Industry needs sufficient European conventional maize supply every day for producing starch and starch derivatives
- Supplies are generally purchased several months in advance: few or no economic viable alternative options
- Anticipate any possible detrimental effects on the availability of food grade maize supplies for the starch industry and therefore starch products for the food industry
- Market fluidity needs to be ensured by the EU regulators

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Proposed management options to the Standing Committee of the Food Chain and Animal Health

- Imperative postponement of the date of the entry into force of the levels on DON and ZEA in order to cover the situation of the 2006 crop which will be still processed after the 1st July 2007
- Further postponement of all provisions on *Fusarium* mycotoxins to leave time for further consideration and adoption of a stepwise approach
- Consider carefully the specific case of the starch industry due to the removal of *Fusarium* mycotoxins during processing and the production of starch-based food ingredients (*Cf.* Regulation 2174/2003):
  - Specific higher maximum levels for maize intended for starch production

    or
  - Recommendation levels for maize intended for starch production as HACCP based food safety management systems are in place

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Link between Food and Feed levels

- The 2006 crop results will also have an impact on co-products used as feed ingredients
- The Commission Recommendation on Feed should be implemented with proportionality as guidance values are not legal maximum limits and may lead to withdrawals only in exceptional cases
- Should the levels in maize be increased, there will be a need to reconsider some levels set in the Recommendation on several feed ingredients and for some species (i.e. cattle)