

The European Commission's Joint Research Centre

Alejandro Herrero

ITRE visit Ispra

29 October 2008

<http://irmm.jrc.ec.europa.eu>

<http://ec.europa.eu/dgs/jrc>



Food safety – an issue?

Food and feed safety come up regularly in the news ...



... melamine, dioxins, PAHs, BSE, mycotoxins, acrylamide, semicarbazide, allergens, labelling requirements ...

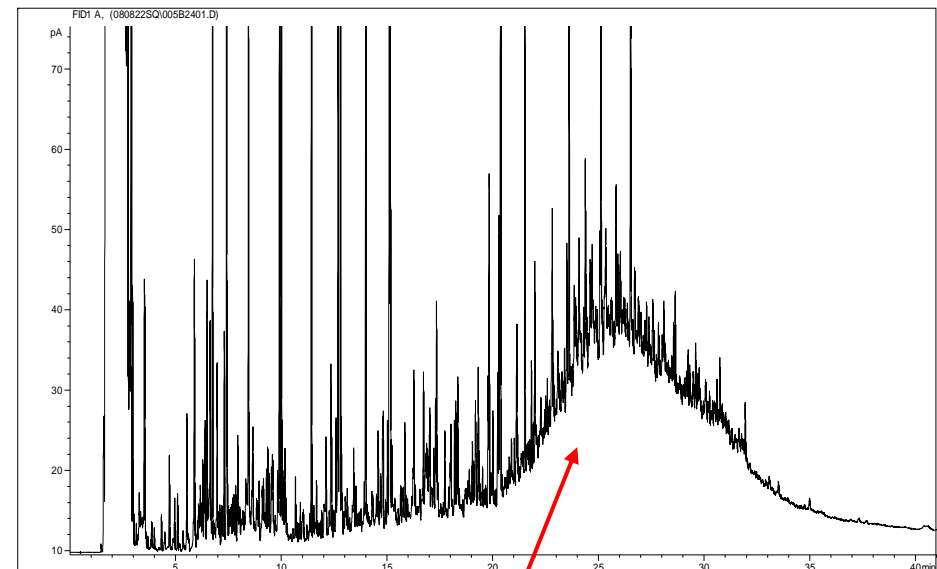
JRC reacts to recent melamine crisis

- collect information and review methods to detect melamine in food and feed products
- set-up of Webpage
<http://irmm.jrc.ec.europa.eu/html/news/news/melamine.htm>
- eventual inter-laboratory comparison



Mineral contaminated sunflower oil

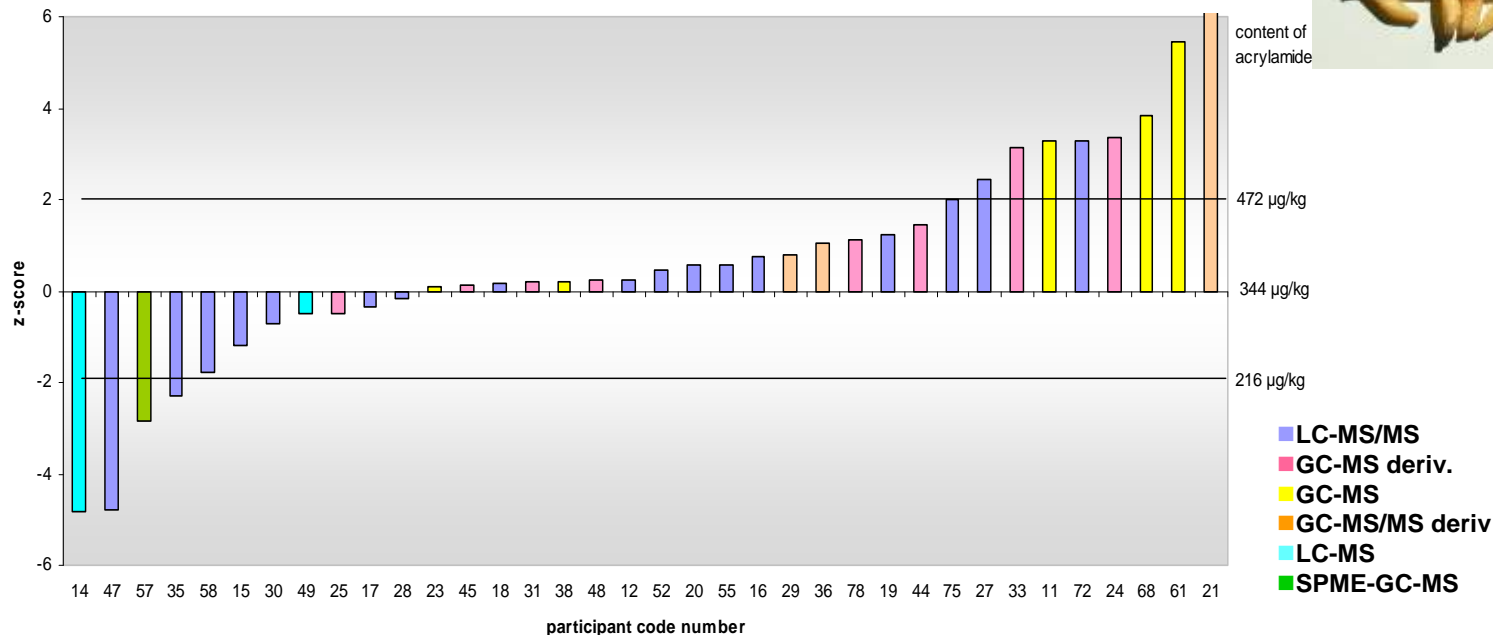
- Sunflower oil imported from Ukraine contaminated with mineral oil (up to 7 g/kg)
- Contamination source unclear
- Organisation of workshop together with expert laboratory
- Technical support to FVO inspection in Ukraine
- Organisation of inter-laboratory comparisons with more than 70 participants ongoing



Mineral oil contamination

Support to solving the acrylamide problem

- Organisation of information exchange events
- Development of suitable method of analysis
- Four inter-laboratory comparisons
- Acrylamide data base (transferred to EFSA in 2008)
- Two method validation studies



What does the JRC do for reliable food analysis?

- Organises competence testing for laboratories
- Develops or validates methods of analysis
- Produces measurement standards (reference materials) for food testing
- Develops and maintains databases

>> Promote confidence in measurement results



Who needs confidence in measurement results?

- **The risk manager**

Making difficult choices on the basis of measurements results:
Who is right? Are the results comparable and reliable?

- **The industrial operators**

Are we being controlled by competent laboratories?
Trust in the measurement results provided by trading partners

- **The citizens**

Who is checking the safety of our food and our environment?
What is the quality of the controls being made?



JRC-IRMM develops and validates analytical methods: consensus building among EU27+

validated methods are submitted to...

- **Committee European for Standardisation (CEN)**
- **Association of Analytical Communities (AOAC) International**
- **International Standardisation Organisation (ISO)**
- **Codex Alimentarius**

... and become standards e.g. in the field of food allergens, mycotoxins, sweeteners, vegetable fats



- Detection of food allergens
- Peanuts in biscuits or chocolate
- Milk proteins in complex foodstuffs
- Compliance with labelling legislation

A concern: food processing can mask the trace of allergens while the food may still be allergenic!



Analytical laboratories designated by Community directives and regulations on the basis of their excellence

An integral part of European risk management system

Organised by sectors: 40 CRLs

Biological risks: 12

Animal Health: 13

Chemical risks: 13

GMOs: 1

Feed additives: 1



A CRL fulfills its tasks in collaboration with a network of National Reference Laboratories (NRLs) in the Member States: ~1200 labs!



- EU-wide standards for testing methods
- Organise comparative tests, train analysts from national laboratories and improve their performance in measurements
- Know international standards and practices
- Keep lists of reference substances and their suppliers

6 CRLs in the JRC:

- Mycotoxins
- PAHs
- Heavy metals in food and feed
- Feed additives
- GMOs in food and feed
- Food contact materials

JRC coordinates networks of ~270 National Reference Laboratories in different fields

1999-2005: evaluation of 20 rapid *post mortem* tests for BSE and 10 for “Scrapies” (a total of 60.000 test samples prepared)

3 evaluation rounds (2001, 2003, 2005)

12 BSE tests approved for testing in EU

Cooperation with Nobel Laureate Stanley Prusiner



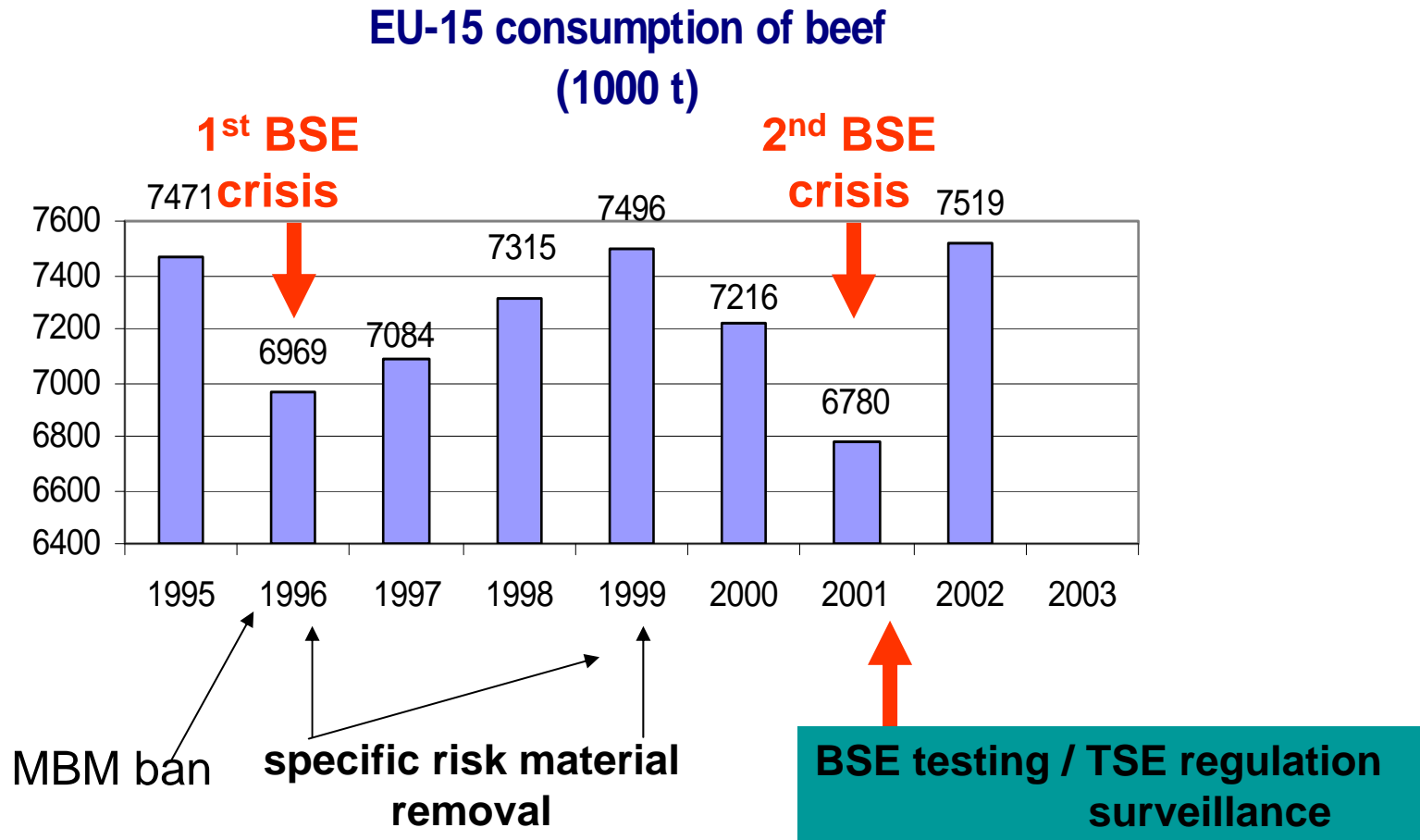
...and brings about a significant drop in price of the diagnostics kits (excluding labour costs)...

...and reduces the amount of subsidies paid by the Commission to the Member States

Direct subsidies (EC) per test reduced from 20€ to 7€ (a fraction of the diagnostics cost)

7/2001	2002	2003	2004	2005	2006
€ 20	€ 15	€ 12,5	€ 10	€ 8	€ 7
3 BSE tests		5 BSE tests		12 BSE tests	

Total savings (2002 as the base year) ~ 250 M€



**Economic Impact: 1800 M€ back into the
beef market**

Joint Research Centre (JRC)

Robust science for policy making



Web: ec.europa.eu/dgs/jrc