

2010 European Science Open Forum

Sunday, 4 July 2010

Session on

State-of-the-art nanofood technology: Risk and benefits?

The consumer expects that Food

- **is fresh, however able to be stored**
- **looks and tastes good**
- **is as natural as possible**
- **is wholesome**
- **is not expensive**
- **is safe**



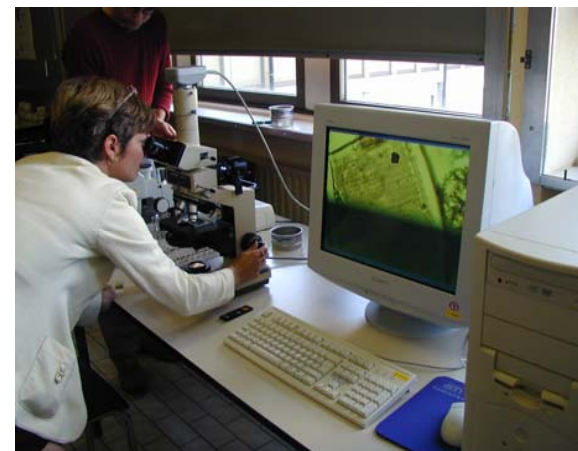
Food Control

The quality of food has been controlled since food became a trade

Nevertheless there have been problems discovered, especially since times of modern measurement equipments

In recent years there was a focus on *risk assessment* rather than on *benefit assessment*

There has been always been a focus on risks from *man made products* rather than from *natural products*



Legislation to Protect the Consumer

Safety Aspects

- protect the health of the consumer;
- ensure the implementation of maximum limits.

Quality Aspects

- ensure correct labelling;
- detection and prevention of frauds.



Food Safety: General Provisions

- **General principles and requirements of food law**
 - **The precautionary principle**
 - **Training of food safety control authorities**
 - **Agricultural products and food as traditional specialities guaranteed**
 - **Protection of geographical indications and designations of origin**
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- **European Commission – risk management**
 - **European Food Safety Authority (EFSA) – risk assessment**
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- **Research in EU Framework Programmes including the European Commission's Joint Research Centre**



How does Europe regulate Nanotechnology?

Discussion on definitions of nanotechnology

- Size: Range 1-**???** nm?
- Functional Systems

Legislative status quo: in June 2008 the European Commission published a review of the legislation applicable to nanomaterials COM(2008)0366

There is no nano-related special legislation, however it is not unregulated



EU FOOD LEGISLATION – Nanotechnology Relevance

- **General Food Law**
Regulation (EC) No 178/2002
- **Novel foods and novel foods ingredients**
Regulation (EC) No 258/97
- **Food contact materials**
Regulation (EC) No 1935/2004
- **Food additives**
Directive 89/107/EEC
- **Food supplements**
Directive 2002/46/EC
- **Addition of vitamins and minerals**
Regulation (EC) 1925/2006
- **Feed legislation**
various Directives and Regulations

FOOD LEGISLATION – Nanotechnology Relevance

Novel foods and novel food ingredients

Regulation (EC) No 178/2002

including e.g.

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- New or intentionally modified primary molecular structure
- Application of a production process not currently used

Novel foods are subjected to pre-market control

↳ allows assessment of possible risks associated with the use of nanomaterials and nanotechnologies

FOOD LEGISLATION – Nanotechnology Relevance

Food contact materials

Regulation (EC) 1935/2004

must not transfer their constituents to foodstuffs in quantities which could

- Endanger human health
- Cause an unacceptable change in the composition of the food
- Deteriorate the organoleptic characteristics of the food

FCM substance must undergo a safety assessment by EFSA

↳ allows assessment of possible risks associated with the use of nanomaterials and nanotechnologies

The European Parliament

(April 2009, adopted by Commission 14 July 2009)

Requests the European Commission to review all legislation **within 2 years (2011)** to implement the principle “no data, no market” for all applications of nanomaterials in consumer products or in products leading to discharges in environment

Calls for clear labelling of ingredients in form of nanomaterials in consumer products

Calls for urgent development of adequate testing protocols to assess the hazard of, and exposure to, nanomaterials over their cycle



In conclusion

As food products containing nanomaterials or produced by using nanotechnology can be considered as novel food, they

- **Need to undergo pre-market authorisation (initial assessment by a Member State)**
- **Need to be labelled**

