THE ROLE OF EUROPEAN COMMUNITY REFERENCE LABORATORIES TO ENSURE THE IMPLEMENTATION OF LEGISLATION

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Joint Research Centre
Institute for Reference Materials and Measurements

http://www.irmm.jrc.be
http://ec.europa.eu/dgs/jrc/index.cfm
The Joint Research Centre

Centre of scientific and technical reference for the conception, development and monitoring of EU policies
Where does the JRC fit in the European Commission?

President Barroso

Commissioner Potočnik
Science and Research

Joint Research Centre (JRC)

Research DG (RTD)

27 Commission Members
7 Institutes in 5 Member States \( \cong 2800 \) staff

**IE** - Petten The Netherlands
- Institute for Energy

**IRMM** - Geel Belgium
- Institute for Reference Materials and Measurements

**ITU** - Karlsruhe Germany
- Institute for Transuranium Elements

**IPSC - IHCP - IES** - Ispra Italy
- Institute for Environment and Sustainability
- Institute for Health and Consumer Protection
- Institute for the Protection and Security of the Citizen

**IPTS** - Seville Spain
- Institute for Prospective Technological Studies
The role of JRC Institute for Reference Materials and Measurements

The mission of the IRMM is to promote a common and reliable European measurement system in support of EU policies.

IRMM - CONFIDENCE IN MEASUREMENTS®

complementary to national activities: providing quality assurance tools for all
JRC-IRMM core competences & research areas

• **Core competences**
  – Reference materials
  – Food analysis & bio-analysis
  – Chemical/isotopic reference measurements:
    Metrology in Chemistry
  – Radionuclide metrology
  – Neutron physics

• **Applied in the fields of**
  – Food and feed safety and quality
  – Environment and health
  – Biotechnology
  – Industrial standards
  – Nuclear safety & safeguards
  – Nuclear waste treatment
EU food and feed legislation

To protect the well-being of consumers, to allow them to make informed choices, and to ensure free movement of goods within the Community

Safety aspects

• To limit amount of hazardous substances in food supply chain
• To ensure that legal limits are implemented and respected

Quality aspects

• To ensure compliance with label declaration (content of valued ingredients, origin, manufacturing process)
Legislative framework

- **White Paper on Food Safety (COM/99/719):** assuring the highest standards of food safety is a key priority for the Commission; identifies the need to establish a Community-wide framework for official controls.

- **Regulation EC/178/2002 (general food law):** to protect public health and consumers’ interests in relation to food, while promoting free movement of food within the EU.

- **Regulation EC/882/2004 (official feed and food control):** sets out the approach that competent authorities of Member States must adopt for official controls.

**Food crises and scares**

- BSE
- Dioxins
- BADGE
- Nitrofuran
- Acrylamide

...
EU legislation requiring chemical measurements in foodstuffs

- Residues of veterinary medicinal products (growth promoters, antibiotics, etc)
- Pesticides (EU-wide monitoring programmes)
- Food contaminants and residues (mycotoxins, heavy metals, PAHs, PCBs, dioxins, etc)
- Food contact materials
- GM food and feed labelling
- Food labelling (nutritional properties, allergens)
- Common Agricultural Policy (intervention)
- Customs and excise
Measurements and legislation

• millions of measurements are performed every year to implement European legislation

• important decisions are taken based on those measurements

• need for harmonized implementation of policies in EU27+
Integrated system for analytical data quality

Analytical data quality

- Management system
- Organisational structure
- Document control
- (Certified) reference materials
- External proficiency testing
- Control charts/statistical methods
- Calibrated and maintained instruments
- Documented and validated methods
- Qualified and trained staff
- Quality manual
• Mandated by Regulation (EC) No 882/2004
• Amended by Regulation (EC) No 776/2006

• Community Reference Laboratories should contribute
to a **high quality and uniformity of test results**, in areas where a need for precise analytical results exists (**regulatory limits**)
Legal frames

(1) the support to the *authorisation* of products used in human and animal nutrition and

(2) the support to the efficient *control* of the compliance of food and feed with European legislation carried out by Member States’ official control laboratories

*N. B.: Implementation of control activities is the duty of national reference laboratories and competent authorities in the Member States – not the CRL*
CRL tasks

- provide NRLs with details of analytical methods, including reference methods;
- coordinate application of (reference) methods by the NRLs, in particular by organising comparative testing for the NRLs and ensure appropriate follow-up of such comparative testing;
- coordinate practical arrangements needed to apply new analytical methods and informing NRLs of advances in this field;
- conduct initial and further training courses for the benefit of staff from NRLs and of experts from developing countries;
- provide scientific and technical assistance to the Commission, especially in cases where Member States contest the results of analyses;
- collaborate with laboratories responsible for analysing feed and food in developing countries.

Art. 32 Regulation (EC) 882/2004
National Reference Laboratories

- **Member States designate** one or more reference laboratories (NRLs) for each Community laboratory.
- One lab can be NRL for more than one Member State.
- NRLs must be **accredited**.
- In case Member States nominate more than one NRL for one CRL, they must ensure that these laboratories **work closely together** (between them, with other national laboratories and with the CRL).
- **Additional responsibilities** and tasks for NRLs may be determined following the comitology procedure.

Art. 33 Regulation (EC) No 882/2004
National Reference Laboratories

- **Collaborate** with CRL
- **Co-ordinate** for their area of competence the activities of official laboratories
- **Organise** where appropriate comparative tests between the official national laboratories and ensure follow-up of such comparative testing
- **Ensure the dissemination** to the competent authority and official national laboratories of information that the CRL supplies
- **Provide** scientific and technical assistance to the competent authority for the implementation of co-ordinated control plans
- **Be responsible for carrying out** other specific duties provided for following the comitology procedure

The CRL/NRL network

- A common language for measurements
- Improvement of measurement capabilities
- Contribution to standardisation
- Requirements for accreditation
  - Reference materials
  - Interlaboratory comparisons

Control laboratories in the Member States
Forty CRLs in EU

27 CRLs for feed and food

13 CRLs for animal health and live animals
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<th>Current CRLs for feed and food</th>
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| **Milk and milk products**   | **Marine biotoxins**       | **Dioxins and PCBs**   |
| AFSSA, FR                    | AESA, SP                   | CVUA-Freiburg          |

| **Salmonella**               | **Bivalve molluscs**       | **GMOs**               |
| RIVM, NL                     | CEFAS, UK                  | JRC (Ispra)            |

| **Campylobacter**            | **Parasites**              | **Food contact materials** |
| SVA, SW                      | ISS, IT                    | JRC (Ispra)             |

| **Listeria monocytogenes**   | **Veterinary drug residues** | **PAHs**               |
| AFFSA, FR                    | RIVM, NL; AFSSA, FR; BVL, DE; ISS, IT | JRC (Geel)             |

| **Coagulase+Staphylococci**  | **Pesticides**             | **Feed Additives**      |
| AFSSA, FR                    | DFVF, DK; CVUA-Freiburg, DE; LAGV, SP; CVUA-Stuttgart, DE | JRC (Geel)             |

| **Escherichia coli**         | **TSEs**                   | **Heavy metals**        |
| ISS, IT                      | VLA, UK                    | JRC (Geel)              |

| **Antimicrobial resistance** | **Animal proteins in feed** | **Mycotoxins**          |
| DFVF, DK                     | CRA-W, BE                  | JRC (Geel)              |
Polycyclic Aromatic Hydrocarbons (PAHs) factsheet

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Report on the third inter-laboratory comparison test organised by the Community Reference Laboratory for Polycyclic Aromatic Hydrocarbons

15 + 1 EU priority PAHs in sausage meat and acetonitrile

Jose Angel Gomez Ruiz, Laszlo Hollosi, Lubomir Karasek, Donata Lerda, Patricia Lopez, Rupert Simon, and Thomas Wenzl
Reference systems within the ERA

sharing experiences

CRL

combining resources

sharing technical potential

sharing intellectual potential
Useful links and contacts

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