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Robust methods for GMO detection ready at hand

A new Reference Report published today by the European Commission's Joint Research Centre (JRC) lists 79 reference methods for GMO analysis which have been validated according to international standards. This Compendium, developed jointly by the European Union Reference Laboratory for Genetically Modified Food and Feed (EU-RL GMFF) and the European Network of GMO Laboratories (ENGL), presents the technical state of the art in GMO detection methods. Each method is described in a user-friendly way, facilitating the implementation of GMO legislation by official control bodies.

Presenting the Reference Report today, the Director of the JRC Institute for Health and Consumer Protection (IHCP), Elke Anklam, said: "The JRC has been working for more than 10 years on the analysis of genetically modified organisms (GMOs) in food and feed and has acquired internationally-recognised expertise in this field. The publication of this "Compendium of Reference Methods for GMO Analysis" represents a major milestone in GMO analysis and will be a useful tool facilitating practical implementation of the reference methods by GMO control laboratories".

International cooperation for harmonised reference methods for GMO analysis

In line with the EU legislative framework for GMOs, the "Compendium of Reference Methods for GMO Analysis" published today has been developed in close collaboration with the European Network of GMO Laboratories (ENGL). This network is formed by almost 100 national laboratories active in GMO detection and provides a unique forum of European scientific expertise to support harmonisation in GMO analysis.

The following selection criteria were applied to decide on inclusion of GMO detection methods, which were validated in international collaborative trials during the period 1999 to 2009:

- Considering the largest common denominator in the present global framework of GMO analysis, this first issue of the "Compendium on Reference Methods for GMO Analysis" focuses on Polymerase Chain Reaction (PCR) methods i.e. DNA-based detection methods.
- Compliance with ISO 5725 international standard (Accuracy (trueness and precision) of measurement methods and result) and/or the IUPAC (International Union of Pure and Applied Chemistry) "Protocol for the design, conduct and interpretation of method performance studies".

The 79 reference methods thus identified are described in a short executive summary which provides all essential information. For further details on some of the methods the relevant references are provided.

This user-friendly lay-out makes the Compendium a practical tool and facilitates implementation of the reference methods by GMO control laboratories.

Most of the methods have been developed by the biotechnology industry and validated by the EU-RL GMFF for their applicability according to EU legislation. They will be used by EU Member States to organise official controls on GMOs and the "Compendium of Reference Methods for GMO Analysis" will therefore contribute to the health and consumer protection of European citizens.

Inauguration of extended state-of-the-art laboratories

Over a hundred experts – members of the European Network of GMO Laboratories (ENGL), international partners from GMO control labs in China, India, Japan, Jordan, Zimbabwe and Latin America and several participants from the biotech industry – participated today in the inauguration of extended laboratory facilities at the JRC Ispra. Equipped with unique instrumentation the European Union Reference Laboratory for Genetically Modified Food and Feed (EU-RL GMFF) can analyse contents of GMO in food and feed down to trace level.

Background

The European Reference Laboratory for Genetically Modified Food and Feed (EU-RL GMFF) and the European Network of GMO Laboratories (ENGL)

The European Union Reference Laboratory for Genetically Modified Food and Feed (EU-RL GMFF) is hosted by the European Commission JRC Institute for Health and Consumer Protection (IHCP), in Ispra (Italy).

The legal mandate of the European Union Reference Laboratory for Genetically Modified Food and Feed (EU-RL GMFF) regarding GMO analysis is laid down in Regulation (EC) No 1829/2003 on "genetically modified food and feed" and Regulation (EC) No 882/2004 "official controls performed to ensure the verification of compliance with feed and food law, animal health and animal welfare rules".

In accordance with article 32(1) of Regulation (EC) No 882/2004, the European Union reference laboratories for feed and food (including therefore the EU-RL GMFF) are also responsible, amongst others, for "providing national reference laboratories with details of analytical methods, including reference methods".

In this legal frame, the core activity of the EU-RL GMFF is the validation of analytical methods for the detection and quantification of GMOs (the EU-RL GMFF, operational since 2004, has validated so far more than 60 methods for GMO detection). Validation of GMO detection methods is an integral part of the EU approval process for GMOs and the activities of the EU-RL GMFF therefore contribute to the health and consumer protection of European citizens.

JRC Reference Reports

JRC Reference Reports represent a JRC-wide view on a subject for which the JRC is noted as expert. They provide a reference for political decision-makers, the research community, stakeholders and an informed but non-specialist audience. JRC Reference Reports are authoritative documents that establish the current state of knowledge in specific areas of scientific investigations or in policy assessments.

For further information:

To download the JRC Reference Report "Compendium of Reference Methods for GMO Analysis", please go to: <http://www.jrc.ec.europa.eu/rr>

For more information on JRC activities related to GMO Analysis, please visit: <http://ihcp.jrc.ec.europa.eu/>

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