

Know what you eat: detecting Genetically Modified Organisms

How can we tell if the food we eat contains Genetically Modified Organisms (GMOs)? Scientists at the European Commission's Joint Research Centre (JRC) are validating new methods for finding GMOs in food and also check the quality of existing testing methods. This research at a European level is crucial for laboratories in EU countries that carry out thousands of tests each year to see if food contains GMOs. With the support of the JRC they can be sure that the tests they use are reliable and this way, common safety standards can be applied across the whole of Europe.



DID YOU KNOW:

- That if a food product sold in the EU contains more than 0.9% of GMOs, this must be mentioned on the label.
- That there are 24 types of GMO authorised within the European Union for human consumption.

Detecting unauthorised GMOs

In 2006 American authorities notified the EU that rice imports from the USA may have been infected with an unauthorised type of GMO called LLRice601. The EU reacted swiftly and announced emergency measures, namely that no imports of long grain rice from the USA were to be permitted unless shipments were thoroughly tested and found to be free of LLRice601.

The JRC played a crucial role in solving this crisis by quickly providing information on how to detect the GMO. It examined two detection methods and, finding these to be reliable, quickly communicated this to everyone involved. This way, within one week of the EU's emergency measures announcement, European laboratories had a reliable test for the unauthorised GMO at their disposal.

Creating networks

The JRC runs the Community Reference Laboratory GMO in Food and Feed and has set up the European Network of GMO Laboratories (ENGL), a unique platform of EU experts who play an important role in the development of methods for detecting GMOs in food. The network helps scientists exchange information on the latest developments and techniques in order to better protect Europe's citizens. When unauthorised GMOs are detected, this is communicated immediately to the Rapid Alert System for Food and Feed (RASFF), a tool that provides national authorities with information and measures to be taken in cases of contamination.



Scientist collecting leaf sample.



Sample weighing for DNA extraction.



Loading DNA samples on agarose gel.



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