

# Detection and quantification of GMOs in food

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## Quality lab for GMO analyses

- ISO 17025 accredited since June 2004, in collaboration with the Department for Quality of Animal Products and Transformation Technologies (DvK-CLO)
- Belonging to the lab of Microbiology and GMO
- Expertise since 1997 in fundamental and applied research on detection, characterization and quantification of GMOs
- Since 1999 routine-scale analysis of GMOs under the authority of government and industries
- **Scope of accredited analyses:**
  - Qualitative and quantitative detection of GM **soybean** (p35S, tNOS, RRS) in pure soybeans and processed, solid derived products;
  - Qualitative and quantitative detection of GM **maize** (p35S, tNOS, Bt11, Bt176, GA21, Mon810, T25) in pure maize kernels and processed, solid derived products
- Extension of scope (2005-2006) for: GM **canola, sugar beet, chicory, cotton**

NBN EN ISO 17025  
Accredited  
Laboratory



Certificate:  
039-T-ISO17025

## Background

- European Directive **2001/18/EC** for commercialization of GMOs
- European Regulation (EC) **1829/2003** for GM food and feed: **threshold values** for mandatory labelling of GM products
  - **0.9 %** per ingredient (authorized GMOs)
  - **0.5 %** per ingredient (non-authorized GMOs which received a positive risk evaluation from EFSA)
  - **0.3-0.5-0.7 %** for seeds (separate legislation)
- European Regulation (EC) **1830/2003** for labelling and traceability of GMOs throughout the whole production and distribution chain



## DNA analysis

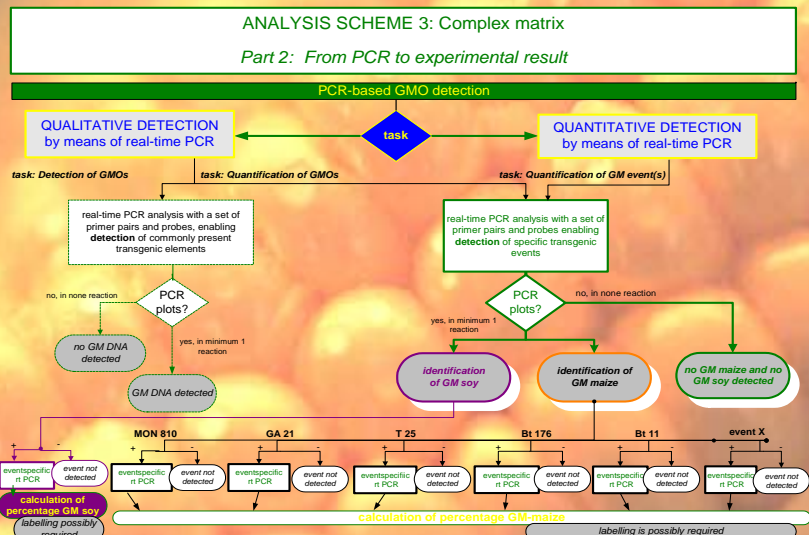


## GMOs and Europe

- EC-JRC as Community Reference Laboratory (**CRL**) authorized with controlling consequent implementation of EU legislation; evaluation of methods and materials submitted by the GM company; production and distribution of reference materials (RMs) for GMO analysis; validation of sampling and PCR methods
- **ISO/CEN** norms for DNA-based GMO analysis in development
- DvP-CLO as Belgian Reference Laboratory (**BRL**) in collaboration with WIV (Brussel) en CRA (Gembloux)

## Strategy for routine analysis

- **Decision support system** as a helpful tool for determining the strategy of analysis to follow
- **Modular** structure of the strategy of analysis: sampling, sample preparation, DNA extraction, real-time PCR analysis
- **Detection, identification and quantification** possible with one and the same technique: real-time PCR
- **Flexibility:** extension with new matrices, crops, GM events is possible at any moment
- Time and cost **efficient**



## Would you like to have more information?

- Ask for our flyer on 'GMO analysis'!
- Make an appointment to get to know us better:
  - Head of GMO laboratory:  
Dr. Ir. Isabel Taverniers | [taverniers@clo.fgov.be](mailto:taverniers@clo.fgov.be)
  - Adjunct quality coordinator GMO:  
Friedle Vanhee | [f.vanhee@clo.fgov.be](mailto:f.vanhee@clo.fgov.be)
  - Quality coordinator Microbiology and GMO:  
Ir. Koen Dereu: | [k.dereu@clo.fgov.be](mailto:k.dereu@clo.fgov.be)
- Send your food and (mixed) feed samples for GMO analysis