

Tracking bugs in the food chain



INTEGRATED PROJECT

Background/description of problem

Producers of food and animal feed will soon be legally responsible for the safety of their products, as required to protect the health of consumers, but there is no standard format for how to trace or track a bio-contaminant. People are also becoming increasingly worried about the possibility of deliberate contamination of food, so-called bioterrorism. In the complex environment of the food chain, tracking microbial pathogens is hampered by lack of fast simple methods. Prediction of how these pathogens would spread in a given situation is vital to control threats to public health.

Project profile

BIOTRACER makes a concerted multi-disciplinary attack on tracing the course of food and feed contamination, using the latest metabolomic and genomic data to understand the physiology of microorganisms. The course of contamination events is being modelled to give predictive methods. The project's 47 participants include experts in database development, microbiology, software, risk assessment, legislation and standards, as well as food retailers. They focus on the meat, dairy and feed chains, as well as the risks associated with bottled water.



International aspects

INCO partners have high levels of food and feed trade with Europe. Brazil exports feed materials, while South Africa exports agricultural products, including maize and corn. Russia is a main importer of European food products and Indonesia has trade links with the EU.

Socio-economic significance

BIOTRACER will have the following long-term socio-economic impact:

- It will enhance consumer confidence in the safety of European food
- It will diminish public concern about the risks of bioterrorism
- It will promote new skills and training for INCO partners
- It will safeguard the viability of Europe's important food and feed markets.



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Basic project information

Full project title: Improved bio-traceability of unintended microorganisms and their substances in food and feed chains

Duration: 48 months

Starting year: 2007

EU funding: €11 million

FP6 instrument used: Integrated Project

Project coordinator:

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Third country partner(s) involved:

Embrapa Food Technology (Brazil)

Gadjah Mada University (Indonesia)

The Russian Academy of Sciences (Russia)

Council for Scientific and Industrial Research (South Africa)

Project website: www.biotracer.org

EC scientific officer: Judit Krommer, judit.krommer@ec.europa.eu

Scientific significance

The project will contribute to the following scientific areas:

- Collection of physiological data on the virulence, gene expressions and metabolite composition of microorganisms that might get into the food chain
- The application of whole genome microarrays and PCR typing methods for bacteria to the fast tracking of pathogens in the food and feed chain
- New quantitative food chain modelling systems using combinations of current methods
- Computation of risk assessment of pathogens in animal products
- Persistence and pathology of potential deliberate and accidental pathogenic contaminants.

Project outcomes

- Improved methodology in European laboratories for tracing pathogens
- Virtual contamination scenarios to develop solutions specific to each food and feed chain
- Software tools and recommendations to assist in making decisions and targeting response measures
- Communication plan to spread results to consumers, producers, traders and decision-makers.