

# RECENT PROGRESS IN RAPID METHODS FOR FOOD QUALITY AND SAFETY CONTROL

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The presence of potentially hazardous chemicals in food remains a major concern among consumers. Recent food contamination incidents, e.g. the fraudulent addition to animal feed in Germany of fatty acids meant to be used for technical purposes, leading to high levels of dioxins in eggs, certainly contribute to fears about the safety of food. Currently, a variety of analytical test methods is used to help ensure the safety of food and feed in Europe, both for goods produced in the EU and imported from third countries. Many of these methods are tedious and time consuming and require sophisticated and expensive instrumentation. The CONffIDENCE project aims to further improve food and feed safety in Europe and beyond by the development of faster and cost-efficient methods for the detection of a wide range of chemical contaminants in different food and feed commodities. These methods will not only save precious time in ever faster production cycles, but will also permit more food/ feed samples to be monitored due to the lower costs per test. In combination with the broadened spectrum of detectable residues and contaminants the CONffIDENCE project will significantly increase food safety in Europe. Within CONffIDENCE, rapid and simplified multi-methods have been developed for: • persistent organic pollutants: PCB's, brominated flame retardants, PAH's • perfluorinated compounds: PFOS, PFOA, FOSA • pesticides: dithiocarbamates, paraquat • antibiotics: tetracyclines, sulphonamides, quinolones, chloramphenicol, tylosin, malachite green • coccidiostats: lasalocid, monensin, narasin, salinomycin, nicarbazin and diclazuril • heavy metal speciation: inorganic arsenic, methylmercury • alkaloids: ergot, pyrrolizidine and tropane • marine biotoxins: PSP, DSP, ASP, palytoxin and tetrodotoxin • mycotoxins: DON, zearalenone, fumonisins and T-2/HT-2 in products such as seafood, fish feed, cereal-based food and feed, dairy products, vegetables, honey and meat. A balanced mix of novel multiplex technologies has been utilized, including lateral flow devices, flow cytometry with functionalized beads, optical and electrochemical biosensors, metabolomics-like comprehensive profiling, ambient MS and NIR hyperspectral imaging. Currently, most methods have been in-house validated and in the final phase of the project small-scale collaborative studies will be organized. Moreover, the simplified methods will be applied in impact demonstrators that contribute to exposure assessment and validation of hazard models. The consortium consists of 16 partners from 10 European countries, representing 8 research institutes, 5 universities, 2 large food and feed industries and 1 SME. CONffIDENCE has started in May 2008, has a duration of 4 years and is coordinated by RIKILT – Institute of Food Safety, The Netherlands. In the presentation, key results from CONffIDENCE will be presented. Contact: [coordination@confidence.eu](mailto:coordination@confidence.eu) Website: [www.confidence.eu](http://www.confidence.eu)

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