CONFIDENCE: Contaminants in food and feed: Inexpensive detection for control of exposure

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 CONFIDENCE NEEWS

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 Dear stakeholder,

 The CONFIDENCE project team is proud to present the 8<sup>th</sup> edition of the CON/fIDENCE e-newsletter. In this newsletter you will find recent developments in the CON/fIDENCE project and related information in the area of contaminants in food and feed.

 To download the Newsletter 9 click

http://www.conffidence.eu/Stakeholders/registration.php

Best regards,

Jacob de Jong, RIKILT - Institute of Food Safety CON*ff*IDENCE coordinator dissemination officer@conffidence.eu

## In the spotlight



here

Please feel free to distribute this 9<sup>th</sup> e-

Newsletter to other interested parties.

#### CONffIDENCE final stakeholder workshop

CONFIDENCE has just completed the final year of a 56 months research programme. The final stakeholder workshop was held on Tuesday 18<sup>th</sup> December 2012 in Brussels and was chaired by the Coordinator of the project, Dr. Jacob de Jong.

It was attended by 26 researchers from the CON*f*IDENCE partners, 2 members of the Advisory Board and 12 stakeholders representative of the EC-DG Research, EC JRC-IRMM, EC DG MARE, COST, EFSA, Food drink Europe and FEFAC. During this meeting the Cluster leaders presented the 56 months activities and achievements in the nine RTD Work packages for organic pollutants, veterinary pharmaceuticals, heavy metals and biotoxins and in the Dissemination Work package.

Over 85 deliverables have been produced during this period. Some of the key outputs are highlighted through the articles of this newsletter.

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This project has also been notable for the volume and variety of technology transfer and dissemination activities:

#### • Website and e-Newsletters

- 'CONffIDENCE: contaminants in food and feed: Inexpensive detection for control of exposure' website was launched on 22<sup>nd</sup> October 2008. Information and outputs of the project are presented. During the project period, 75000 pages have been visited by 15000 different visitors. (http://www.conffidence.eu )
- 8 e-Newsletters have been published (2 by year) to inform the stakeholders on scientific progress and upcoming events. (<u>http://www.conffidence.eu/archive/newsletter.php</u>)
- 116 stakeholders have been registered on-line: 50% from research organisations and 50% from food/feed companies and instrument or kit manufacturers. (<u>http://www.conffidence.eu/Stakeholders/database.php</u>)

#### Open Days, workshops and courses

- 3 Open Days have been organised in 2010 and 2011 in the framework of the food/feed international conferences in Netherlands, Brazil and Czech Republic. CONffIDENCE outputs were disseminated to 260 participants through 14 lectures, 55 posters and 12 demonstrations. (http://www.conffidence.eu/Project\_output/openday.php)
- 4 stakeholders workshops have been organised in 2012, in Spain, Netherlands and Belgium, in the framework of 4 international conferences dedicated on one of the 4 topics studied in the project. These workshops aim to present the achievements of the CONffIDENCE partnership for each cluster of workpackages to the stakeholders, allowing them to become familiar with the newly developed methods and their applicability in the food and feed chain. CONffIDENCE outputs were disseminated to 300 participants through 16 lectures, 10 posters and 4 demonstrations.

(http://www.conffidence.eu/Project\_output/workshops.php)

- An international PhD course on advanced food analysis was organised in 2010 at the VLAG school at Wageningen in the Netherlands. 27 lectures were delivered by CONffIDENCE partners and other experts to 66 PhD students. (http://www.conffidence.eu/Project\_output/course.php)
- BSC education modules organised in 2011 at the CAH Dronten University in the Netherlands were delivered to 75 students in food safety and food chain management. 2 days intensive course comprised theoretical and technical aspects on mycotoxins and plant toxins given by leading specialists in the field from CONffIDENCE project. (http://www.conffidence.eu/Project\_output/course2.php)



#### • Lectures, posters and publications

- 108 lectures and 110 posters presenting the outputs of the project have been delivered by the CONffIDENCE members to many international conferences over the world. (<u>http://www.conffidence.eu/Project\_output/posters.php</u>)
- Over 30 publications have been published in scientific peer reviewed journals.

(http://www.trace.eu.org/library/publications.php)

 A special issue "CONffIDENCE outputs" Edition of Analytical and Bioanalytical Chemistry journal will be published shortly.

## News from the CONffIDENCE project

# Developing detection methods for organic pollutants; POPs, PFCs, Pesticides

picture	WP1a Achievement1: Integrated sample preparation
	Achievement2: GC-MS method
	Achievement3: screening POPs in fish
	Achievement4: Monitoring survey
	Achievement5: DART-MS lipids profiling
	to be completed by Jana Hajslova , Jana Pulkrabova
picture	WP1b Achievement1: Full collaborative study on simplified method for perfluorinated alkyl compounds to be completed by Marinella Farre, Enrique Valera
picture	WP1c Achievement1: Direct detection of Dithiocarbamates in fruit/vegetables by Ambient MS
	Achievement2: Detection of paraquat in potatoes/cereals by electrochemical immunosensor
	Achievement3: Survey
	to be completed by Hans Mol

#### Developing detection methods for Veterinary Pharmaceuticals: Coccidiostats, Antibiotics

picture	Pharmaceuticals: Coccidiostats, Antibiotics
	WP2a Achievement1: New relatively fast and inexpensive multiplex method for screening of coccidiostats
	Achievement2: Ring trial
	Achievement3: Carry Over study
	to be completed by Ursula Vincent

#### picture

#### WP2b

Achievement1: Development, validation and impact demonstration of dipsticks to detect antibiotics in a range of matrices

Achievement2: Bee4Sensor for honey

Achievement3: Tetrasensor for feed, urine and meat

to be completed by Katharina Heinrich, Matthew Sharman, Vincent Chabottaux

#### **Developing detection methods for Heavy Metals**

WP3 Achievement1: Inorganic As detection in seafood by SPE-HG-AAS Achievement2: Inorganic As detection in rice by SPE-HG-AAS Achievement3: Methyl Mercury detection in seafood by HPLC-ICPMS Achievement4: Collaborative trials

Achievement5: Survey

to be completed by Jens Sloth

picture



Demonstration of NIR hyperspectral method to

#### Developing detection methods for Biotoxins: Alkaloids, Marine Biotoxins, Mycotoxins

WP4a Achievement1: Dipsticks

Achievement2: Multiplex ELISA

Achievement3: NIR method

The protocol and validation of the NIR hyperspectral imaging method for the detection of ergot contamination in cereals dedicated for food and feed has been described in detail and published (Food Additives and Contaminants, 2012). The hyperspectral imaging method has been successfully rounded off with testing and demonstrating the system at determine ergot in grains at an industrial setting an industrial site (see figure opposite). Relevant presentation and demonstration about this methodology has been presented at the dedicated CONffIDENCE Cluster workshop at WMFmeetsIUPAC, Rotterdam, the Netherlands in November 2012. It will be published in the special issue of the ABC journal. This technology can be used to detect and quantify ergot contamination in large samples of cereals destined for food or feed in both the laboratory and in the processing industry, where accurate and fast inspection is needed. The classical microscopy method can be used as confirmatory method on reduced samples. The line scan NIR hyperspectral imaging system allows to analyse a sample of 250 g in one minute. In comparison, the existing microscopy method requires 30-60 minutes to analyse the same sample. The next challenges will be to demonstrate the potential of the methodology for multicontaminants detection in particular in the organic productions.

to be completed by Hans Van Egmond

picture

WP4b

Achievement1: Multiplex biosensor assays for multiple shellfish toxins developed and validated

Achievement2: Contribution to EFSA opinions on emerging marine toxins

to be completed by Chris Elliott, Katrina Campbell

picture

WP4c Achievement1: Multiplex dipstick tests for fusarium toxins

Achievement2: 4 mycosensor

Achievement3: Interlaboratory validation

to be completed by Angelo Visconti, Veronica Lattanzio, Noan Nivarlet

## News from other projects

### 4<sup>th</sup> FEED SAFETY INTERNATIONAL CONFERENCE 2012





The 11, 12 and 13 September 2012, the China Agricultural University (CAU) hosted in Beijing - the People's Republic of China, the 4th International FEED SAFETY Conference "Methods and challenges". The conference was organized in collaboration with the Walloon Agricultural Research Centre (CRA-W), Gembloux, Belgium, the Institute of Food Safety (RIKILT), Wageningen, The Netherlands and the Queen's University of Belfast (QUB), Belfast, UK. Former FEED SAFETY Conferences were organized in 2004, 2007 in Namur (Belgium) and in 2009 in Wageningen (The Netherlands) in the framework of different EC projects. The purpose of this 4th Conference was to give an overview of the latest legislative, scientific achievements and industrial progresses regarding the areas such as processed animal proteins, nonprotein nitrogen (NPN), organic contaminants (dioxins, PCB's, pesticides), feed additives, banned substances, heavy metals, mycotoxins, plant toxins, veterinary drugs, and GMO's. Results of recent international RTD projects (CONffIDENCE, QSAffE, EURL-AP) were presented. Over 140 participants, including 53 oversea representatives, from 17 countries and 38 organizations, attended the conference. The 31 lectures and the 49 posters presented during this event can be viewed on the FEEDSAFETY website on http://www.feedsafety.org/fs2012/ .

The third session cochaired by Jacob de Jong (RIKILT, the Netherlands), coordinator of the CONffIDENCE project was dedicated to "Feed additives, contaminants and undesirable substances.

Several outputs of the European CONffIDENCE project were presented

- Antibody based techniques such as lateral flow and multiplex ELISA to detect a broad range of alkaloids in feed and food (Chris Elliott, QUB, UK),
- <u>GC-MS/MS and GCxGC-TOFMS to detect several PCBs</u>, <u>PBDEs and</u> <u>PAHs in fish feed within one single run</u> (Jana Pulkrabova, ICT Prague, Czech Republic),
- <u>Near infrared hyperspectral imaging to detect and quantify ergot in</u> <u>cereals</u> (Philippe Vermeulen, CRA-W, Belgium),
- <u>Five-plex flow cytometry-based immunoassay (FCIA) for the</u> <u>simultaneous detection of six frequently used coccidiostats in animal</u> <u>poultry feed and eggs</u> (Ursula Vincent, EC-JRC-IRMM, Belgium),
- <u>Multiplex dipstick for the analysis of Fusarium mycotoxins in wheat and</u> <u>maize</u> (Christophe von Holst, EC-JRC-IRMM, Belgium).

Moreover, the Chinese expertise was also presented through the <u>advance in</u> the detection of veterinary drug residues in animal-derived food using <u>C/MS/MS and UPLC/MS/MS</u> (J. Shen, CAU, China), the <u>safety evaluation of</u> <u>mycotoxin adsorbent montmorillonite on weanling pigs</u> (Lying Zhang, CAU, China). Shashi Vemuri (ANGR, India) shown a <u>status of the extent of heavy</u> <u>metal contamination in soil, water fodder and in some popular vegetables in</u> <u>markets of Hyderabad in India</u>.

Read more about this conference...



### **Upcoming Events**



#### 4<sup>th</sup> MONIQA INTERNATIONAL CONFERENCE: FOOD SAFETY UNDER GLOBAL PRESSURE OF CLIMATE CHANGE, FOOD SECURITY AND ECONOMIC CRISES

26 February - 1 March 2013

The 4th MoniQA International Conference will take place in Budapest, Hungary, 26 February - 1 March 2013, continuing the successful series of MoniQA International Conferences (Rome - Italy 2008, Krakow - Poland 2010, Varna - Bulgaria 2011). The theme of the conference will put various emerging and persistent food safety issues, and the relevant analytical and legal challenges in perspective of globalisation, climate change, food security and economic crises. These issues are drivers for new developments and new research initiatives in food safety assurance and food safety management worldwide, however economic crises and the volatility of food commodity prices put pressure on food safety assurance strategies especially in developing countries but also in international trade. A session will be dedicated to Rapid methods and sensors chaired by Philippe Delahaut and Jacob de Jong. Several outputs of the CONffIDENCE project will be presented.

Read more about this conference...

## FINAL MYCORED INTERNATIONAL CONFERENCE

27 - 30 May 2013



The final MycoRed International Conference will take place in Apulia, Italy, 27 -30 May 2013. Academics, individuals from research institutes, universities, national and international agencies and industry, who are working in this important field of research, will join the last MycoRed appointment. The scientific programme will reflect a spectrum of disciplines (methods of analysis and sampling, toxicity, chemistry, biochemistry, biocontrol, prevention, risk assessment, occurence in foods and feeds), presenting the last advances and results coming from this interdisciplinary project. Finally the conference will represent an opportunity to gain an overview of research and future developments on mycotoxin research.

Read more about this conference...



# RAFA 2013: RECENT ADVANCES IN FOOD ANALYSIS

5 - 8 November 2013

The program will be accompanied by several satellite workshops, interactive and vendor seminars: - 2nd European workshop on Ambient mass spectrometry in food and natural products - Interactive seminar on sample-prep and separation techniques and approaches for mass spectrometry detection in food quality / safety: Step by step strategies for fast development of analytical method- Interactive seminar on data handling foodomics Vibrational and chemometrics. \_ spectroscopy and chemometrics for monitoring of food and feed products, lab-to-the-sample - Food safety issues beyond the EU - challenges for analytical methods update- Joint Research Centre seminar research activities and opportunities for collaboration strengthening, with a special focus to young scientists-VENDOR SEMINARS \_ introducing recent instrumentation and scientific strategies for advanced food quality / safety control

Read more about this conference...

#### CONffIDENCE FP7 project : www.conffidence.eu

For further information contact: coordination@conffidence.eu

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