Issue 10
June - 2009

Food authenticity and traceability NEWSLETTER

Here is the 10th edition of the newsletter. The newsletter provides a summary of latest information in the area of food authenticity and traceability and is funded through the *TRACE* project.

In this issue:

In the spotlight

Final TRACE conference in Brussels: How to trace the origin of food?

TRACE organising committee, Walloon Agricultural Research Centre (CRA-W)
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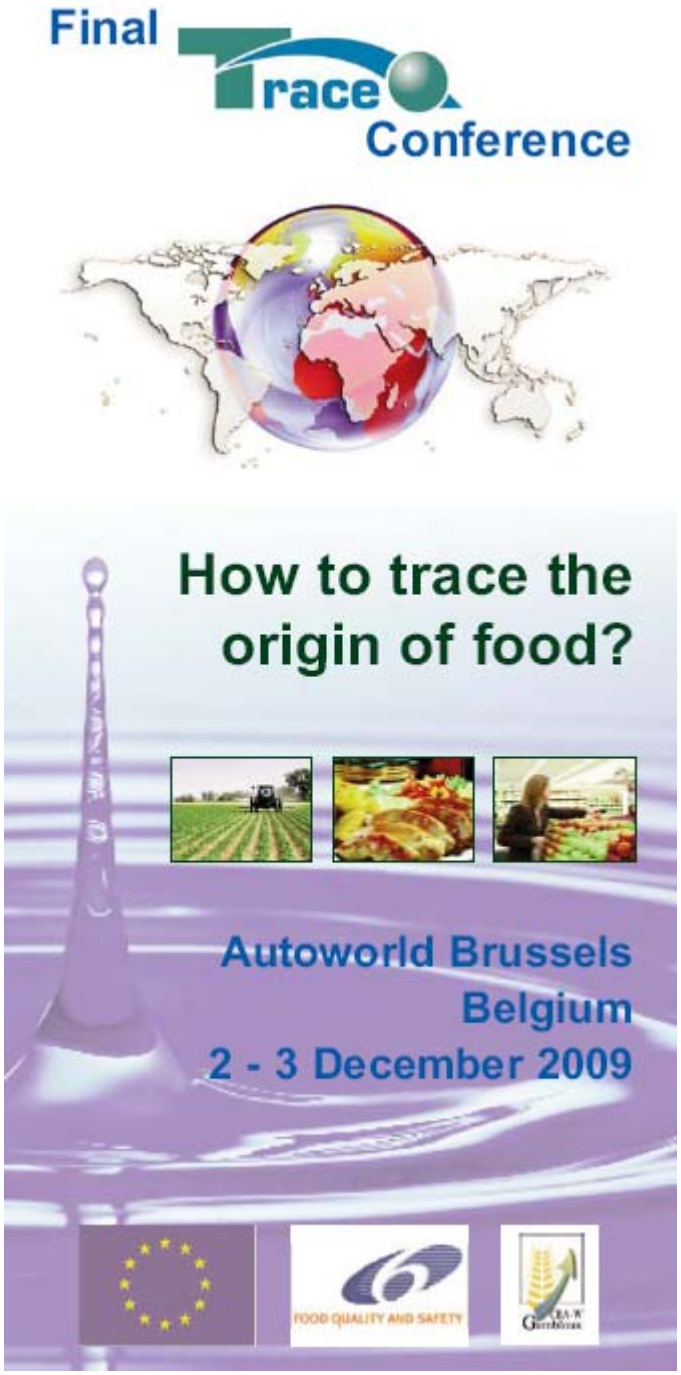


The organising committee would like to inform you that the registration for the final TRACE Annual Meeting and Conference planned on 2nd and 3rd December 2009 at the "Autoworld Brussels" in Belgium is open. Early registration is possible until 15 September 2009.

The event dedicated to the new approaches for tracing the origin of food, is aimed specifically to persons working in analytical and technical sector, quality assurance, quality control, supply chain and branding roles within the food industry as well as to representatives of control authorities and consumer's organisations.

The conference will be dedicated to the TRACE results and will feature the following topics: traceability systems, systems for verifying geographical origin of food, food verification systems, traceability and the consumer, traceability and the future. Posters session and demonstration activities on those different topics will be planned as well.

More information is available on http://www.trace.eu.org

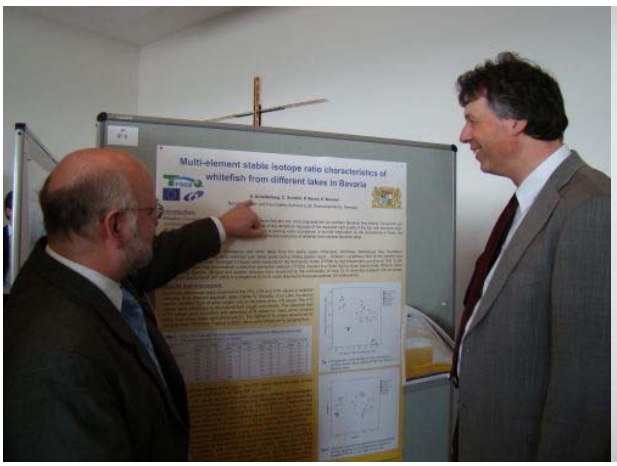
TRACE in practice:
New methods and systems for confirming the origin of food

TRACE organising committee,
Bayerisches Landesamt für Gesundheit und Lebensmittelsicherheit *(LGL)*

The recent TRACE conference that took place in Germany was a big success with nearly 150 people attending the 2.5 days workshop and meeting. Representatives from the food industry, regulatory bodies, academia, SME's and consumer organisations attended the "TRACE in practice" conference. The workshop "Isotope ratio mass spectrometry (IRMS) ", the plenary session on new methods and systems for confirming the origin of food, the parallel sessions on analytical techniques for authenticating food and on traceability systems now and in future attracted people from 85 institutes issue from 25 European and non European countries. The lectures and posters are available on the TRACE website on http://www.trace.eu.org/je/germany/index.php .

1st Prize TRACE poster session:
Multi-element (H C N S) stable isotope ratio characteristics of whitefish (Coregonus species) from different lakes in Bavaria

Antje Schellenberg, LGL Oberschleißheim, DE, WP1 partner
(Antje.Schellenberg@lgl.bayern.de)



The use of multi-element isotopic ratio analyses to provide information on the provenance of foods is gaining wider acceptance. Multi-element (H C N S) stable isotope ratio analysis was tested for its suitability as a means for geographical provenance assignment of whitefish (Coregonus species) from several Bavarian lakes.

The whitefish is a valuable fish for human consumption and the most important fish for southern Bavarian lake fishery. It prefers cold, clear water with high oxygen content and can be found in deep alpine lakes. Whitefish samples from Lake Constance and other lakes from the alpine region (Pilsensee, Woerthsee, Starnberger See, Chiemsee, Tegernsee and Kochelsee) were collected during fishing season (April – October). The defatted dry matter was found to be a suitable sample for the light elements stable isotope ratio analysis (SIRA). The fillet of the whitefish was dried with the aid of lyophilisation. The homogenized dry mass was extracted with petrol ether. When all remaining solvent is evaporated, the fat free dry mass is used for the measurements.

Significant differences were observed between the multi-element stable isotope ratios of whitefish samples from different lakes. Carbon and nitrogen isotopic ratios were influenced by the natural food supply and climate. Sulfur isotopic ratios were influenced by geographical location and surface geology of the region. The $\delta^{15}N$ and $\delta^{34}S$ values provided the main separation between the investigated origins.

However, more sophisticated evaluation of the data using multivariate methods, such as canonical discriminant analysis achieved in excess of 80% correct classification. Variables used in the classification were $\delta^{34}S‰$ vs. V-CDT, $\delta^{15}N‰$ vs. Air, $\delta^{13}C‰$ vs. V-PDB, $\delta^{2}H‰$ vs. V-SMOW. Our preliminary observations on the use of multi-element stable isotope analyses to detect the geographic origin of whitefish are so encouraging, that further investigations with other regions are proposed.

More on http://www.trace.eu.org/je/germany/meeting/trace_IP9.php

How to verify the authenticity of food?

Isotope ratio mass spectrometry (IRMS)-workshop - Analytical and technical aspects of the $\delta^{18}O$-determination of organic substances

Antje Schellenberg, LGL Oberschleißheim, DE, WP1 partner
(antje.schellenberg@lgl.bayern.de)

The isotope ratio mass spectrometry (IRMS) workshop was held at the 5th TRACE annual conference in Freising on 1st April 2009. Nearly 90 people attended the workshop.
The topic of the workshop was the $\delta^{18}O$-determination of organic substances and the technical difficulties of stable isotope analysis. Oxygen is the third most abundant element in the universe by mass after hydrogen and helium and the most abundant element by mass in the Earth's crust. Oxygen is involved in key structural compounds and it is providing functional groups for most organic compounds. Therefore the $\delta^{18}O$ value of a compound can help to identify its oxygen source and can provide supplemental information on the chemical nature of biosynthetic reactions or corresponding chemical synthesis reactions.
The beginning of the workshop was dedicated to the basic principles of the stable isotope analysis. Prof. Hanns-Ludwig Schmidt gave an introduction in the fundamentals, systematic, and importance of isotope discriminations in biological systems.
Roland A. Werner explained the principle of the on-line $\delta^{18}O$ determination. The high-temperature carbon reduction technique was presented and the problems involved with the technique were discussed. One focus of the presentation of Lutz Lange was the analysis of $\delta^{2}H$ and $\delta^{18}O$ in liquids and solids with highest precision in continuous flow mode. Dieter Juchelka presented a new concept for an automated multi-element irm-GC/MS.
Another important topic of the workshop was the inter-laboratory comparability of stable isotope data. Within this lecture Simon Kelly presented results of stable isotope measurements of the TRACE-inter-comparison materials (ICMs). Good performance has been achieved in general on HCNS stable isotope analysis. Oxygen stable isotope analysis still presents challenges in terms of instrumentation and calibration, but use of the ICMs and normalisation of data has permitted inter-comparability across the laboratories. Willi A. Brand shows the inter-laboratory comparability of $\delta^{18}O$ data from a variety of sulfates, nitrates and organic materials using different instruments and experimental procedures. The workshop provided an opportunity to exchange experiences, the mutual discovery of new topics and the development of innovative ideas and ways to implement them in the field of stable isotope analysis.

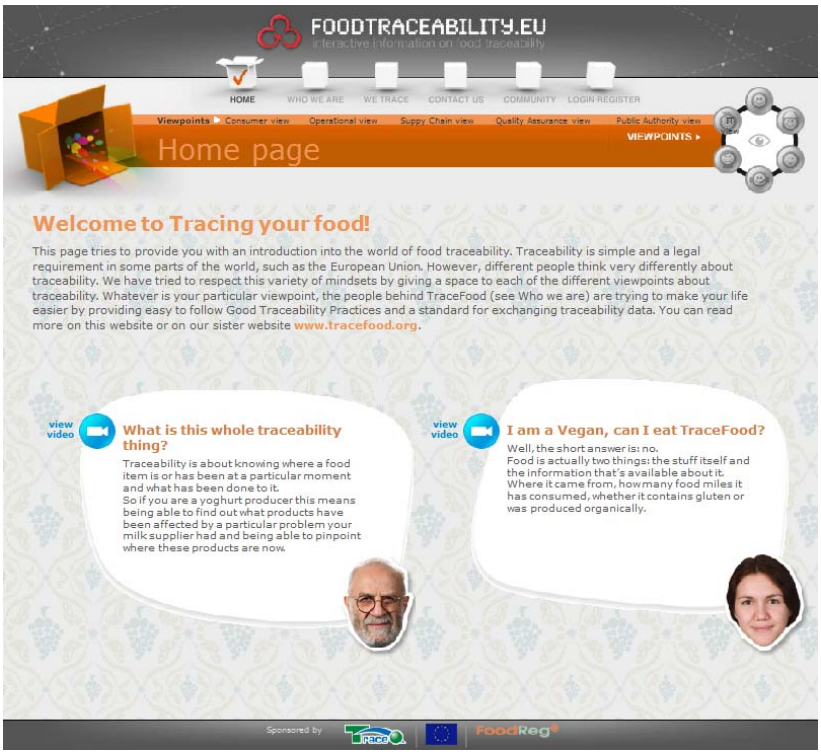
More on *http://www.trace.eu.org/je/germany/meeting5ws.php*

How does the food industry trace the foodstuffs?

Tracing your food – interactive information

Heiner Lehr, TRACE WP4-5Partner, FOODREG, Sp

(heiner.lehr@foodreg.com)



Tracing your food is an interactive animation web site that will exemplify the TraceFood framework from different points of view. The TraceFood framework tries to guide food businesses in the implementation of good traceability practices and gives the industry tools (most notably TraceCore) to establish global food traceability.

The web site will exemplify traceability from different angles or viewpoints

- The consumer view – What information is available for the food I buy?
- The operational view – What data do I need to capture?
- The supply chain view – Safe and responsible purchasing
- The quality assurance view – Remote Quality Assurance
- The public authority view – Public health and food safety
- The IT view – Specification for traceability systems

The web site will mix video with animation and more "classical" presentations (text and link collections) in order to present the information in a easily comprehensible way.

Users can register with minimal data and can state their interest in traceability. If they agree to publish their data, they get access to other people's names who share common interests. This work has been sponsored by the FP6 IP TRACE project.

For more information visit: http://www.foodtraceability.eu

Other *TRACE* News

TRACE at the OIE International conference on Animal Identification and Traceability

Eskil Forås, TRACE WP4-5Partner, SINTEF, No

(Eskil.Foras@sintef.no)

The World organisation for Animal Health (OIE) arranged in March 23rd to March 25th 2009 their first International Conference focusing on Animal Identification and Traceability in Buenos Aires (Argentina). There were over 500 attendees from all five continents.

The aim of the conference was to put focus on the international standards for food traceability that OIE and Codex Alimantarius Commission (CAC), and the fact that identification of animals is an important element of tracing of food products in the subsequent food chains. The conference highlighted the need for this type of international standards by preventing that exports from developing countries are experiencing distinct requirements from specific countries.

The conference demonstrated that some countries have come far regarding identification of animals. Among other things RFID technology and electronic tagging are put into action. This is also the fact for some developing countries that produces animal for export.

Research manager Eskil Forås from SINTEF Fisheries and aquaculture was one of the speakers on the conference. He presented state of the art for traceability in the Norwegian fish farming industry. In addition, results from the TRACE project were presented as significant for future work to establish international traceability standards.

More information about the conference:
http://www.oie.int/eng/traceability-2009/welcome.html

More information about OIE: http://www.oie.int/eng/en_index.htm

More information about Codex Alimentarius:
http://www.codexalimentarius.net/web/index_en.jsp

TRACE on Research Connection 2009

The European Commission has organised on May 7th-May 8th, 2009 a high level research event in Prague under the Czech presidency. The EU commissioner Janez Potočnik opened the two day event where more than 1300 people participated from 53 countries.
TRACE joined 5 other EU funded food traceability projects (TraceBack, Sigma Chain, Prosafebeef and BioTracer) in a press conference on the outputs of traceability projects. Lively discussion with the about 40 members of the press in the room made the whole event last longer than the expected 45 minutes. Patrick Vittet-Philippe, the EC's Press and Information Officer responsible for the press programme of Research Connection 2009, congratulated the team on their presentation and the stimulation of an active interest by the press.
Heiner Lehr (FoodReg) made a live demonstration to interested journalists of TRACE's food specification maps and its TraceFood framework. He also gave out an additional press pack, specifically created for the occasion.

TRACE at the JIFSAN Symposium

13-15 May 2009
Trace researchers featured prominently at the recent Fera/JIFSAN conference, "Methods and systems for Tracking, Tracing and verifying foods" held at Greenbelt MD on 13-15 May 2009. Over 100 international attendees heard presentations from TRACE and US scientists on the state of the art in the food traceability area. TRACE presenters were: Paul Brereton, Paul Reece (Fera), Gerry Downey (Teagasc), Jana Hajslova (ICT), Grishja van der Veer (Geochem), Stefán Torfi Höskuldsson (Maritech) and Kathyrn Donnelly (Nofima). The TRACE presentations were very well received and there was considerable positive feedback and desire to collaborate with TRACE.

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TRACE IN RESEARCH EU FOCUS

09 May 2009

The issue no 4 of the series "Measuring performance: the Czech Republic in the ERA" offers an overview of the Czech Republic research and development activities. The supplement presents the R&D; priorities of the Czech EU Council Presidency, the participation of the country in the EU framework programmes for research, and the national R&D; and innovation system. Furthermore, it gives an insight of the research potential of the Czech Republic by presenting more than 20 examples of projects jointly achieved by Czech researchers together with other European and international partners.

In this issue:

- The Czech Republic and the framework programmes for research
- Success stories (including information on TRACE project
- Support for knowledge and technology transfer

Information supplied by Monika Tomaniová, TRACE web-correspondent (ICT Prague)

Source : Research EU Focus

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SEVERAL TRACE MEMBERS CITED IN NEW SCIENTIST ARTICLE

22 June 2009

Mason Inman has recently interviewed several members of TRACE to understand food traceability better. Under the title "Fifty ways to interrogate your dinner" he has published then an article in the June 16th, 2009 edition of the New Scientist, an accomplished magazine for the dissemination of science. The New Scientist, being published in paper now for over 50 years, attracts about 2 million users each month for its electronic publication and another 800,000 for its printed edition. Mason has done a pretty good job in summarising traceability and the determination of origin, so it is probably worthwhile to have a look at the original article.

Information supplied by Heiner Lehr, TRACE web-correspondent (FoodReg)

Source : Newscientist

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News from other projects

DELEGATES FROM FIVE CONTINENTS LAUNCH BRIGHTANIMAL PLF PROJECT AT UK CONFERENCE

12 June 2009

Nearly 50 delegates from five continents ensured the successful launch of BrightAnimal, the new EU Framework 7 project on precision livestock farming, when the kick-off meeting was held at the AIDC European Centre of Excellence in Halifax, UK. During the next two years BrightAnimal will work towards producing a framework for effective and acceptable PLF for small and medium sized enterprises in Europe and world-wide.

Information supplied by Heiner Lehr, TRACE web-correspondent (FOODREG)

Source : AIDC

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News in Europe

INJECTED CHICKEN SOLD IN THE UK

18 June 2009

Chicken secretly injected with beef and pork waste has been sold in cafes and restaurants across Britain

Information supplied by Caroline Garrod, Web Correspondent (FERA)

Source : The Independent

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PIG MEAT TRACEABILITY NOT WORKING

11 June 2009

The report on the Irish pig meat contamination last December says a forensic recall of contaminated product was not possible and a 100% recall was necessitated for a 10% contamination rate. It says that a full traceability of batches at slaughter should be introduced.

Information supplied by Petter Olsen, TRACE web-correspondent (NOFIMA)

Source : RTE news

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ETHICAL CORPORATION INSTITUTE REVEALS THAT CONSUMERS ARE STILL PUTTING ETHICS FIRST

09 June 2009

Of the 31 Corporate Social Responsibility initiatives analysed,by the Ethical Corporation Institute only 10% promote product traceability and only 13% have a product label that helps members to communicate ethics to the end consumer

Information supplied by P. Olsen, TRACE web-correspondent (NOFIMA)

Source : Ethical corporation

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IRISH FOOD SAFETY SYSTEM CONDEMNED AFTER PORK DIOXIN SCANDAL

29 May 2009

The current system for monitoring and tracing Irish pork is inadequate and should be overhauled urgently, a highly critical report from the country's Parliament has said.

Information supplied by Monika Tomaniová, TRACE web correspondent (ICT Prague)

Source : FoodNavigator.com

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A LABEL AGAINST THE FRAUDS ON THE WINE

27 April 2009

It is estimated that 30% of the wine bottles sold in Europe are falsified. Some countries as China even recognize that 70% of the imported wines are falsified. In this context, the operational technical centre of wine (CTOV), in Spain, announced the development of a label including a security system very similar to the one used on banknotes and some identity documents. This adhesive label, we can easily apply between the neck and the stopper of the bottles, includes an invisible code and an encrypted system storing informations on each wine, cellar, vineyard... Each wine producer would be in charge to activate itself its own labels via a CTOV patented technology. This system would cost only 3 centimes Euro by bottle.

Information supplied by Freddy Thomas, TRACE web-correspondent (EUROFINS)

Source : World Press

MORE FOOD FRAUD EXPECTED AS PRICES RISE

09 April 2009

Worldwide trade in fake foods not only costs processors in terms of damage to brands, but also means companies have to spend more on security measures,such as holograms on packaging.

Information supplied by Simon Kelly, TRACE web correspondent (IFR)

Source : FoodQualityNews

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News outside Europe

COST, BUYER COMMITMENT CAUSE QUESTIONS FOR TRACEBACK INITIATIVE

10 June 2009

The Produce Traceability Initiative is being paid for upfront by growers without any immediate return from the market, and the new system could be 'dead weight' if it doesn't provide a marketing tool at the consumer level.

Information supplied by P. Olsen, TRACE web-correspondent (NOFIMA)

Source : The packer

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DEVELOPING SOLUTIONS TO FIGHT FOOD FRAUD

18 May 2009

Adulteration of food proteins is becoming a greater threat to industry as the food supply has become more globalized and economic crisis drives manufacturers to seek cheaper ingredients. US Pharmacopeia is holding a workshop to address the issue next month, bringing together experts from across the food industry to seek the best ways to prevent adulterated food from entering the food supply.

Information supplied by Simon Kelly, TRACE web-correspondent (IFR)

Source : FoodQuality

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GLOBALISATION OF THE FOOD CHAIN

28 April 2009

The globalisation of the food chain, which has seen more and more food that is grown in one part of the world but processed and consumed in others, means that a disease outbreak or food scare in one country can quickly be felt elsewhere. The chief supply officer at one multinational food company says that three to five years ago, a food scare in the US was likely to be confined to that country, because the ingredients for its products were sourced and manufactured there. But now, some 60 per cent of ingredients are sourced and used globally.

Information supplied by Simon Kelly, TRACE web-correspondent (IFR)

Source : Financial times

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TRACEABILITY IN THE FOOD SUPPLY CHAIN IN US

11 April 2009

A recent work carried out by the Office of Inspector General (OIG) showed that that only 5 of the 40 purchased products could be traced through each stage of the food supply chain back to the farm or border. The ability to trace the remaining food products through each stage of the food supply chain was limited because: (1) food facilities often did not maintain lot-specific information, (2) some products were not labeled with lot-specific information, and (3) a number of food facilities mixed raw food products from a large number of farms.

Information supplied by Charles Hurburgh, TRACE web correspondent (IOWA State University)

Source : Office of Inspector General (OIG)

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FDA LOOKS FOR WAYS TO PREVENT ADULTERATION OF FOOD, SUPPLEMENTS

10 April 2009

The US Food and Drug Administration (FDA) is to hold a meeting designed to find ways to prevent the adulteration of food for economic reasons.

Information supplied by Monika Tomaniová, TRACE web correspondent (ICT Prague)

Source : NutraIngredients-USA.com

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ANIMAL IDENTIFICATION AND TRACEABILITY UPDATE AT O.I.E.

31 March 2009

Discrepancies between national identification of live animals and traceability systems of animal products make it difficult to trace products of animal origin throughout the food chain at the world level; developing countries risk losing out on market access because of trade barriers that sometimes are put in place as a result of these discrepancies. The best way to prevent this is for all countries to progressively implement international standards, such as those of the O.I.E. and Codex

Information supplied by Freddy Thomas, TRACE web-correspondent (EUROFINS)

Source : MEATPOULTRY

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Upcoming Events

05 - 08 July 2009
EURO FOOD CHEM XV
FOOD FOR THE FUTURE
Copenhagen - Denmark
More...

04 - 06 November 2009
4TH INTERNATIONAL SYMPOSIUM ON RECENT ADVANCES IN FOOD ANALYSIS
Prague - Czech republic
More...

30 November 2009 - 01 December 2009
ORGANIC FOOD AUTHENTICATION: CHALLENGE OR UTOPIA?
Geel – Belgium
More...

02 - 03 December 2009
TRACE FINAL CONFERENCE
Bruxelles - Belgium
More...

This work is funded by the European Commission, under the FP6 Food Quality and Safety Priority, within the framework of the Integrated Project *TRACE* – 006942 – entitled “Tracing Food Commodities in Europe”. This project is carried out by a consortium coordinated by the CSL – Central Science Laboratory (UK) and includes 51 partners. The information reflects the authors views, the European Commission is not liable for any use of the information contained therein.
