



FOOD INTEGRITY AND TRACEABILITY CONFERENCE

Queen's University Belfast 21-24 March 2011



CONFERENCE PROGRAMME AND ABSTRACTS



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Poster 24

Traceability along the production chain of Italian tomato products**Ms Luana Bontempo**

Fondazione Edmund Mach - Istituto Agrario S. Michele all'Adige (FEM-IASMA), Italy

Federica Camin, Giorgio Nicolini, Ron Wehrens, Luca Ziller, Roberto Larcher (FEM-IASMA), Lara Manzocco (University of Udine, Italy)

The stable isotope composition (C, N, O, H, S) and the concentration of forty-six elements (Li, Be, B, Na, Mg, Al, P, K, Ca, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Rb, Sr, Y, Mo, Ag, Cd, Sn, Sb, Cs, Ba, La, Ce, Pr, Nd, Sm, Eu, Gd, Dy, Ho, Tm, Yb, Ir, Tl, Pb, U) and four anions (nitrates, chlorides, sulphates, phosphates) were determined in tomatoes, tomato juices, passata and pastes produced in three Italian regions (Piedmont, Emilia-Romagna, Apulia). The resulting dataset was processed by a linear discriminant analysis in order to verify if these parameters could trace the geographical origin in spite of food processing technology. By combining seventeen parameters (3 isotopic ratios and 14 elements) an excellent discrimination among tomato products from the three regions was achieved, with over 95% of the samples correctly reclassified into the production site in crossvalidation.

Poster 25

Detection of trichothecene mycotoxins: an immunochemical multiplexing approach**Dr Julie Meneely**

Institute of Agri-Food and Land Use (IAFLU), Queen's University Belfast

John Quinn, Lena Flood (ICx Nomadics Bioinstrumentation Group, USA), Chris Elliott (IAFLU)

The trichothecenes are a large family of structurally related compounds produced by several species of fungi in agricultural crops and produce that are capable of inducing acute and chronic effects in animals and humans. With increased food safety concerns, the international trade of such commodities and the impact of climate change the need for rapid, sensitive and simultaneous screening of these bio-toxins in food and feed presents both the research and enforcement community with great challenges. The future of immunochemical screening methods must lie in the ability to multiplex however there are still very few rapid methods that enable the simultaneous measurement of DON, NIV, T-2 toxin and HT-2 toxin or indeed other mycotoxins that regularly contaminate cereal grains. ICx Nomadics have introduced the SensiQ® Pioneer, a fully automated, high performance, cost-effective and affordable platform which can meet these requirements and a rapid competitive immunoassay for the simultaneous determination of DON, NIV, T-2 and HT-2 toxin is under development on this technology platform. Results will be presented to demonstrate the ability of this surface plasmon resonance platform to provide rapid analysis of these trichothecenes in cereals and cereal products.