Queen's University Belfast

safefood

ASSET
Assured, Safe, and Traceable

FOOD INTEGRITY AND TRACEABILITY CONFERENCE

Queen's University Belfast 21-24 March 2011

CONFERENCE PROGRAMME AND ABSTRACTS

ORGANISING COMMITTEE

Chair: Chris ELLIOTT

Members:

Edel CASEY

Andrew CASTLES

Donna CONVERY

Terry FODEY

Mark MOONEY

Antony POTTER

Clare REDSHAW

Luc ROCK

Angela SEATON

Joyce WATTERSON

INTERNATIONAL SCIENTIFIC COMMITTEE

Paul BRERETON United Kingdom

Padraig BURKE Ireland

Andrew CANNAVAN Austria

Martin DANAHER Ireland

Chris ELLIOTT United Kingdom

James LINDSAY United States

James MCINTOSH Ireland

Queen's University Belfast

safefood

ASSET
Assured, Safe, and Traceable

Poster 8

Small molecule determination using Bio-Layer Interferometry: a proof of concept for agri-food applications.

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

T Fodey, C Elliott (IAFLU)

A biosensor employing Bio-Layer Interferometry technology has been identified as an instrument with potential for the rapid and multiplexed analysis of food samples for chemical contamination. Bio-Layer Interferometry (BLI) is a label-free technology for measuring biomolecular interactions. This optical technique analyses the interference pattern of white light reflected from an activated biosensor tip and an internal reference. The binding between a ligand immobilized on the biosensor tip surface and an analyte in solution produces an increase in optical thickness at the biosensor tip, which is a direct real-time measurement of the change in thickness of the biological layer. The instrument design eliminates the need for microfluidics and facilitates a simple Dip and Read method that allows simultaneous monitoring of large numbers of interactions in an automated manner. The Octet red instrument supports one 96-well plate and can provide 8-well simultaneous read-outs utilising 8 biosensors at a time. The instrument shows potential for rapid multiplexed determination of small molecule contaminants in food samples. Results will be presented from proof of concept experiments for detection of a typical small molecule food contaminant.

Poster 9

Effect of processing procedure, pig genotype and origin on the isotope ratios of bioelements in PDO ham

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

This study focuses on the stable isotope ratios of bioelements (2H/1H, 13C/12C, 15N/14N, 18O/16O, 34S/32S) of the defatted dry matter and of two different fractions of subcutaneous fat (outer and inner layers) of ham samples from pigs reared in Italy and Spain. Aim of the study was to ascertain the effect of the processing procedure, genetic type, breeding system and ham origin on the isotopic parameters. Three Italian PDO types (San Daniele, Parma and Toscano), three genotypes of pigs (Goland, Cinta senese and Romagnola), two breeding systems (indoor and free-ranging) and two ham origin (Italy and Spain) were considered. The first results indicate that the processing and pig genotype do not have affect on the stable isotope ratios, whereas the ham origin and the pig diet regime have a significant effect.