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# FOOD INTEGRITY AND TRACEABILITY CONFERENCE
## Queen's University Belfast 21-24 March 2011

## CONFERENCE PROGRAMME AND ABSTRACTS

## ORGANISING COMMITTEE

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and the H295R steroidogenesis assay which is capable of *investigating how the compound can interfere with* steroid hormone production. References: [1] Connolly L. Endocrine disrupting chemicals: origins, fates and transmission into the food chain in "Endocrine disrupting chemicals in food". (Ed) Shaw I. Woodhead Publishing Ltd, 2009. (5) pp 103 – 125.

**Poster 22**

## Grape traceability based on mineral elements

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

Giorgio Nicolini, Federica Camin, Roberto Larcher (FEM-IASMA)

The possibility to predict elemental composition of grapes from the composition of the soil of origin was investigated constructing a model able to link grape and soil mineral profile using a specific Regression Analysis. Soil and Chardonnay grape samples were collected at harvest time in Northern Italy from 11 different vineyards. Three different types of soil were considered: 3 acid or subacid (pH < 6.7), 4 alkaline and moderately calcareous (pH > 7.3; total $CaCO_3$ < 250 mg/kg) and 4 alkaline and calcareous (pH > 7.3; total $CaCO_3$ > 500 mg/kg) soils. The soils were extracted with ammonium acetate 1M pH 7 solution. The grapes were accurately washed with a $HNO_3$ 1% solution, homogenised and nitric acid digested in a microwave oven (max. temperature 210°C). All the samples were analysed using ICP-MS for the determination of 55 mineral elements. The content of 18 elements in the soil extracts and in the respective grapes was significantly correlated. External validation was performed using an additional dataset of 7 grapes sampled from the same vineyards in a different year. All the 7 grape samples were correctly classified for the soil types and 6 were assigned to the vineyard of origin.