

4th International Conference and Exhibition on

Food Processing & Technology

August 10-12, 2015 London, UK

Reference materials in support to food traceability

Claudia Zoani and Zappa G
ENEA-UTAGRI, Italy

Traceability represents the ability to trace and follow a food and any ingredient through all the stages from production up to the distribution and the end use. Thanks to the progress of knowledge, technologies and data processing systems, today it is possible to identify markers and develop systems and analytical methods for demonstrating the origin and authenticity of raw materials and products, strengthening the system of controls and paving the way to a new approach to traceability. Scientific research is also engaged in the study of the relationships between territory, technologies and quality of productions. The application of the metrological rules to chemical and biological measurements requires more and more a wide availability of Reference Materials (RMs) which constitute very often the only way for establishing metrological traceability of the measurement results and for quantifying measurement uncertainty. The analytical approaches to achieve food traceability are based on the identification of molecular, elemental or isotopic markers and or the definition of characteristic chemical patterns (fingerprints). For this purpose, different analytical techniques are available (e.g., mass spectrometry, spectroscopic and separation techniques, sensor technology, DNA technology, etc.). In addition, appropriate modelling by applying multivariate statistics is an essential requirement. In this work, an examination of the current availability of RMs for traceability of food products is reported, highlighting the lacks, the emerging needs and the specific aspects and requirements for this particular measurement field and the ENEA activities on the development of new RMs for food traceability are described.

Biography

Claudia Zoani is graduated in Chemistry with a PhD in Analytical Chemistry. She is concluding a second PhD on Agricultural, Food and Environmental Sciences, Researcher at ENEA-UTAGRI with more than 10 years of experience. She conducts R&D activities on production and certification of Reference Materials and development and validation of analytical methods for Food Quality & Safety, traceability of raw materials and products, qualification and characterization of materials and processes and agro-ecosystem monitoring. She is the author of 65 scientific publications and presentations at national and international conferences.

claudia.zoani@enea.it

Notes: