

**ILSI Europe 2010 Annual Symposium
Towards a Healthy Future
Assessing and Improving Human and Environmental Health
25-26 March 2010, Brussels, Belgium**

Report

Mr. Reg Fletcher, Chairman of the ILSI Europe Board of Directors, welcomed all participants to the symposium. Dr. Nico van Belzen, Executive Director, presented the main achievements of the institute in 2009, including the organisation of various workshops and events, the publications, and he also presented the 2010 planned activities.

Prof. Gérard Pascal, ILSI Europe Vice-President, introduced the various sessions of the symposium. In the first scientific session dedicated to "Assessing Human and Environmental Health", Dr. Hilde Kruse, Regional Adviser Food Safety at WHO Regional Office for Europe, gave a presentation on "Assessing Food Impact on Human Health" where she highlighted several initiatives that are currently ongoing to better understand the burden and consequences of nutrition-related and foodborne disease. Keys to this knowledge are improved surveillance systems. Better data ensure a better basis for risk management, including the implementation and evaluation of prevention strategies, and proper communication. Better methods and tools for performing risk-benefit assessments of various foods are needed, so that risk communication can be better balanced, coordinated and targeted.

Dr. Arnold Tukker from TNO Quality of Life, the Netherlands gave a presentation on "Assessing Food Impact on the Environment". In his presentation, he explained that various studies have shown that food consumption causes 25-30% of environmental impacts such as energy use, global warming and acidification. He suggested that technical improvements in food life cycles and moderate dietary changes could decrease food environmental impact by 20% and 8%, respectively.

The second session addressed the use of biomarkers in food-related health. Dr. Helene McNulty from the Northern Ireland Centre for Food and Health, University of Ulster, gave a presentation on "Folate and Related B-Vitamins: Markers of Deficiency and Health Maintenance". Emerging scientific evidence supports a number of potential roles for folate (and the metabolically related vitamins B12, B6 and B2) in the maintenance of health, from maternal and foetal health in pregnancy, through childhood, to maintaining heart, brain and bone health in middle and old age. When B-vitamin status is low or deficient, homocysteine levels are invariably elevated, thus plasma homocysteine provides a reliable biomarker of B-vitamin status. Dr. McNulty's presentation showed the latest evidence in relation to the potential roles of folate and related B-vitamins (and gene-nutrient interactions) in maintaining health.

Dr. Colin Kay, University of East Anglia School of Medicine, presented "The Importance of Developing Biomarkers to Assess the Impact of Polyphenols on Health". The identification of key dietary constituents which contribute to the health promoting properties of foods is important for establishing targeted public health recommendations and allowing consumers to make more informed choices. Polyphenols are present in relatively high quantities in many plant foods and have the potential to exert significant health benefits. There is a significant amount of research required to elucidate the relative impact of specific

flavonoids over other food constituents, to devise tools to more accurately assess flavonoid intake, and to better understand flavonoid metabolism. Such studies will allow identifying and developing optimal biomarkers of specific flavonoid sub-classes that may direct future intervention trials. This future research will help to inform industry on optimal components for functional foods and inform the public about the health effects of specific fruits and vegetables.

Prof. Andreu Palou from the University of the Balearic Islands explained about “Markers of Disease Risk Reduction and other Biomarkers”. The European Regulation on nutrition and health claims made on foods, addresses the complex issue of communication of health benefits of foodstuffs to the consumers. Thus, the identification and validation of risk factors or (in general) robust biomarkers of function (of health, disease or well being related to health) is crucial for assessing the potential effectiveness and benefits of health-promoting food compounds. Several physiological/nutritional functions or diseases affected by food lack useful biomarkers, and for other functions there is a need for earlier biomarkers. This lack appears to be a main bottleneck for the consolidation and expansion of the health claims-based added values in the food sector, and provides opportunities for nutrigenomic approaches such as the BIOCLAIMS project to define new biomarkers.

The following session addressed “Environmental impact”. Dr. Andrew Morgan from Danisco talked about “Sustainability and Food Ingredients”. He explained that his company aims to reduce environmental impacts upstream in the value chain. He provided some examples of how bio-based ingredients can help their customers reduce the environmental impact of both food and feed. Bio-based ingredient solutions also offer possibilities downstream in the value chain and beyond direct food use.

Then Dr. John Thøgersen from MAPP, Aarhus School of Business, Aarhus University, gave a presentation on “Consumer Perception of Sustainability” highlighting the discrepancy between European consumers’ pro-environmental attitudes and their unsustainable behaviour and the reasons (e.g. limited awareness) why there are such discrepancies. Education, information and labelling might help in promoting sustainable food choices and reducing the attitude-behaviour discrepancy.

The last session addressed the outlooks for the future; Prof. Alan Boobis from Imperial College London presented the ILSI Threshold project introducing the Key Events Dose-Response Framework. The concepts underlying this framework were shown to apply not only to chemicals, but also to allergens, nutrients and pathogenic micro-organisms. This framework has been applied to a number of case studies from all four categories of stressor leading to the identification of a number of research gaps, information on which would help strengthen the risk assessment paradigm. The framework provides a means of integrating information from various sources and types, including data-rich analyses such as proteomics.

Then Dr. Isabella Tamagnini from the European Commission, Directorate General (DG) Research, presented some activities towards a sustainable food chain supported by her DG. To date a number of projects have been funded to cope with the need to support changes, strengthen food chain resilience and foster innovation. She added that DG Research also brings scientific support for regulatory aspects. The next Framework Programme 7 Knowledge Based Bio Economy (FP7-KBBE) call will be published end of July 2010 with a budget of about €260 million.

Dr. Thomas Öberg from the European Food Safety Authority (EFSA) presented “The Role of EFSA in Integrated Food – Environment Risk Assessments” that is needed to cover hazards and risks along the entire food chain. EFSA has mainly a mission in facilitating integrated food-environment risk assessment through collaboration (European Commission, EU bodies, Member States, international organisations, and stakeholders) and method harmonisation.

Prof. Gérard Pascal provided the final conclusions of the symposium. He thanked the participants, congratulated ILSI Europe for its 2009 achievements and looked forward to the next Annual Symposium in 2011 where ILSI Europe's 25th Anniversary will be celebrated.