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## Functional foods and ingredients: opportunities for health and profit

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## Functional foods and ingredients: opportunities for health and profit

### Abstract

The National Centre of Excellence in Functional Foods (NCEFF) is developing well with strategic research projects underway. This report outlines progress to date.

### Keywords

health, profit, opportunities, functional, ingredients, foods

### Disciplines

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**Functional foods and ingredients: opportunities for health and profit**

The National Centre of Excellence in Functional Foods (NCEFF) is developing well with strategic research projects underway. This report outlines progress to date.

**NCEFF Conference**

The first industry-targeted NCEFF conference, *Functional Foods: opportunities for health and profit* was held in February this year. It enabled Centre and industry members to review progress and discuss plans for the future. Introduced by Industry Board Chairman **Dan Southee**, from Nestlé Australia, the conference began with an overview of issues central to functional foods by international expert **Michael Heasman**. Local health issues and the challenges for substantiating health outcomes, outlined by **Dr Peter Clifton** from CSIRO, and a discussion on opportunities for new technologies by **Dr Maryanne Augustin** from Food Science Australia, represented two of the main areas of the NCEFF program of operation. The regulatory framework for functional food development, presented by **Sarah Major** from FSANZ was another. Centre Director **Professor Linda Tapsell** outlined the operational model for NCEFF and introduced the workshops based around the Clusters of Substantiation Research and Development, Market Intelligence and Innovation Management, and Regulatory Affairs.

**Industry communication**

The Centre has developed a strategic approach to its consultations with industry, including the website, conferences, written materials and targeted meetings with industry members over this year. The vast majority of respondents to an Industry Survey indicated support for the industry stream framework of the Centre, and many were keen to explore the opportunities further. Variation within the industry means that different groups will benefit from different forms of input, but the Centre will be focusing on work that produces a common good for the development of functional foods. There was particular interest in the Centre working with industry groups in developing a review and evaluation system for both the science and market base underpinning functional ingredients and specific foods. Facilitating communication and understanding in regulation was another. The Centre will be discussing these opportunities within its individual industry consultations.

The core structure and programs of the Centre were validated by our Industry Survey, where the main issues for functional food development were identified as regulatory issues and the need to substantiate benefits of functional foods. The public perception of functional foods was also an important consideration, and our publications and seminars will continue to contribute to that process.

**Substantiation research and development**

Comments made on NCEFF's research program indicated support for issues surrounding energy balance and the need to link the research with market intelligence. Consultation on a one-on-one basis was important to develop the research component of the Centre.

**Regulatory affairs**

The website information provided by NCEFF was considered of particular value. The possible substantiation process behind the proposed health claims system provides a useful area in which NCEFF might be involved, particularly by commenting on and adding to the science that informs regulation. NCEFF will continue to liaise with FSANZ on their role in the development of the new regulations.

**Innovation management and market intelligence**

Innovation means making new things or making things in a new way, and innovation management



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concerns the approach to commercialisation. The innovation management toolkit of NCEFF, managed by **Judy Marcure**, scheduled for the website in six months, specifically targets the needs of the Australian food industry in this area. Results of a questionnaire provided to participants indicated that the toolkit would be of use on a regular basis. Innovation is a complex area, and the toolkit is designed to be flexible to address varying needs.

The market intelligence projects of NCEFF have been matched to the scientific program to ensure the relevance of strategic research projects on macronutrients and metabolism. There was a great deal of interest in market intelligence on functional foods generally from industry, particularly in relation to product category. Information on the Australian context was also important, both from the perspectives of the domestic market and potential international opportunities.

**Review of research projects**

The research projects undertaken by NCEFF are in various stages of completion and will be reported through a number of public channels as results become available this year. The projects are briefly summarised here.

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**The impact of macronutrients (types and amounts of protein, high/low GI carbohydrate) on energy balance, energy expenditure and appetite regulation (short/medium term)**

This research adds substantial amounts of science to our understanding of the main approaches to weight management in dietary regimes today. The research also brings together a number of concepts so that the knowledge base becomes more integrated into a whole of diet model rather than focusing just on single elements (GI/Protein). Targeted outcomes for industry include evidence of the benefits of individual products on appetite control, new knowledge on food formulation for appetite control and new knowledge on potential novel ingredients for products in the weight control market.

**The role of selenium as a potential functional food component (medium/long term)**

This research examines the potential for an essential micronutrient with antioxidant capacities whose levels may be declining in the food chain. The potential of optimised selenium intakes on the prevention of infection and reduced effects of degenerative diseases associated with ageing also underpin this interest. Selenium is a good model for studying bioactive components in food and the impact of combinations of bioactives. Targeted outcomes for industry of this research concern the regulation of selenium enrichment in functional foods, based on knowledge of dosage, safety and bioavailability, and efficacy of selenium enriched foods.

**The development of biomarkers of oxidative damage (long term)**

With oxidative damage recognised as a component of the major lifestyle diseases and ageing itself, research on the impact of food and diet on this process will have substantial relevance to functional foods targeting healthy ageing and disease prevention. Measure of oxidative status will be required to underpin this research, and robust biomarkers will be required to substantiate claims. The targeted outcomes for industry with this research are to identify biomarkers that best reflect the impact of diet and to provide means for substantiating the potential effects of foods formulated to improve oxidative status.

Information updates on the work of NCEFF are regularly provided on the website. Formal conferences and symposia add to the communication with industry, as well as individual consultations with the NCEFF team. It is well recognised by all that the task of the Centre is complex, but the potential for achieving common good is highly likely and we are well along that path.

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