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Functional Foods II: Claims and Evidence

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Abstract

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Conclusions
A lexicon of the sensory characteristics of a range of popular bread varieties in Australia has been established which enabled the differences between breads in respect of appearance, aroma, flavor, texture, and aftertaste to be effectively described and understood. Using this method, researchers may be able to more adequately describe the sensory character of bread and relate it to other consumer, sensory, physical or chemical information, ultimately forming a more comprehensive basis for understanding of Australian bread quality.

References

Functional Foods II: Claims and Evidence
Judy Buttriss & Michael Saltmarsh (eds)
The Royal Society of Chemistry, Cambridge, 2000
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This book follows a joint conference held by the British Nutrition Foundation and the RSC Food Chemistry Group in April 1999. The conference aimed to bring together those in academic research and those in industrial research/product development to review (a) evidence for the benefits of physiologically functional ingredients in human health and consumer satisfaction, and (b) the regulatory background against which the market is developing. These proceedings offer 18 plenary lectures and contributed papers and nine poster presentations: most papers relate to (a) but only two to consumer issues.

It is interesting to gain a European perspective on this topic, with so much scientific information and regulatory change coming from the USA and Japan. Most papers are from Britain, Finland or Switzerland, with one Australian paper on red leaf clover isoflavones and one NZ paper on immunomodulatory ingredients from bovine milk.

Even though much of it was published in a British Journal of Nutrition Supplement in August 1998, the most valuable and substantial section (60 pp) of the proceedings is a document on scientific concepts of functional foods from the Commission for Concerted Action on Functional Food Science in Europe (FUFose), coordinated by ILSI Europe. It gives a working definition of functional foods and identifies six key areas for research (growth and development, substrate metabolism, antioxidant defence, cardiovascular function, gastrointestinal function, and behaviour and psychological function), and it describes targets for functions, markers and food components. The list of potential ingredients (vitamins and minerals, fatty acids, soy proteins, polyphenols, dietary fibres, probiotics) holds no surprises but research opportunities for each area are usefully identified. There is a thoughtful discussion of claim substantiation, and three types of markers are classified: markers of target function and biological response (eg reduction of plasma homocysteine in response to folate) both of which may be adequate for enhanced function claims in contrast to markers of intermediate endpoints (eg extent of arterial narrowing; or measures of depression) which may be needed for risk reduction claims.

Interesting reviews cover herbal plants as functional foods, thermostimulatory phytochemical components and folate fortification of UK foods to reduce incidence of neural tube defects. The Leatherhead Food RA reports that consumer surveys in the UK, France and Germany show that energy levels and feeling good are the health criteria of greatest interest to consumers rather than specific disease prevention, and strong differences exist in national attitudes toward claims for health/medical benefits; eg boosting the immune system was rated highest in Germany, but didn't rate in the top five claims of interest in the UK.

Other papers are a mixed bag of technical reports (eg optimising process technology for fermenting cucumbers, molecular genetic techniques for identifying bifidobacteria, enhancement of the solubility of egg white ovomucin) and accounts of small clinical trials (eg bioavailability of microencapsulated fish oil, effect of inulin on calcium metabolism, and sterol-enriched margarines for lowering blood cholesterol). One substantial technical report on a model to measure flavonol thermal degradation in alkaline aqueous media showed rutin to be much more resistant to degradation than its aglycone, quercetin.

Inevitably, in such a rapidly changing field, some material in this book is now somewhat dated or published elsewhere in more detail; also, its mixed content makes it of limited use as a general overview of its topic. It is, however, an interesting documentation of some European perspectives on functional foods at the turn of the century.

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