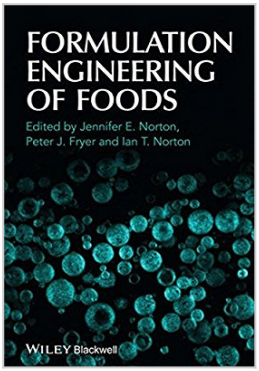

Formulation Engineering of Foods

From Wiley-Blackwell

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Formulation Engineering of Foods provides an in-depth look at formulation engineering approaches to food processing and product development of healthier, higher-performance foods.

Through the use of eye-catching examples, such as low fat and low calorie chocolate, and salt reduction strategies in products like cheese and sauces, the book is at once easy to relate to and innovative. Presenting new methods and techniques for engineering food products, this book is cutting edge and as food formulation is a new method of food science, this is a timely publication in the field.

All three editors are based in the University of Birmingham, base of the largest Chemical Engineering-based food research group in the UK, incorporating research into structured foods, flavour delivery and food hygiene. Research in food processing is carried out in partnership with key companies such as Nestlé, Unilever and Cadbury, as well as through funding from research councils and DEFRA. Joint research and collaboration has been carried out with Food Science departments at Nottingham, Leeds and Reading.

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Editorial Review

From the Back Cover

Formulation Engineering of Foods
Edited
by Jennifer E. Norton, Peter J.
Fryer and Ian T. Norton

Food products are often structurally complex. This structure, or microstructure, determines the food's flavour, texture and mouthfeel, and the pleasure derived from its consumption, in addition to the efficiency of uptake during digestion, the bioavailability of active compounds, and the effect it has on appetite and satiety. Given the health issues of the modern age, including the prevalence of obesity, food research is often heavily focused on fat reduction, or methods of reducing the uptake of fat or slowing digestion, whilst maintaining sensory appeal, and palatability. A combined understanding of material chemistry and material science is needed, together with an understanding of how processing affects food structure, the science behind food consumption, from oral processing through to digestion, and the impact that food formulation engineering can have on liking, sensory perception, digestion, targeted delivery, or appetite. *Formulation Engineering of Foods* aims to provide the reader with detailed reviews of the literature in these areas.

The book is separated into three main sections. The first part of the book, *Designing Structured Foods*, considers how basic materials can be used to formulate complex food systems, with specific structures, desirable sensory attributes and health benefits. In the second part, Structure-Human Interaction, the authors consider the interaction between the food and the human body, and how foods can be designed to get the greatest positive impact (in terms of oral processing and/or digestion) when producing healthier, more convenient, and/or more environmentally friendly products.The third part, *Food Structure and the Consumer*, considers consumer psychology, and the impact that food can have on liking and acceptability, and on appetite and satiety.

Formulation Engineering of Foods is essential reading for food scientists and engineers, food product designers and food developers. It will also be increasingly relevant to academics highlighting the current state of the art and possible areas for future research (particularly multidisciplinary research), and to the food industry where there is demand for greater control and design of food products that provide functionality through formulation and structure. This will therefore be a required book for libraries in all institutions where food science and technology are taught or implemented.

Also available

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Dense Phase Carbon Dioxide: Food and Pharmaceutical Applications

Edited by M.O. Balaban and G. Ferrentino
ISBN 978-0-8138-0649-5

About the Author

About the Editors

Jennifer E. Norton is a Post Doctorate Research Fellow in the School of Chemical Engineering at the University of Birmingham.

Peter J. Fryer is Professor of Chemical Engineering at the University of Birmingham.

Ian T. Norton is Professor of Microstructural Engineering at the University of Birmingham.

Users Review

From reader reviews:

Phyllis Richards:

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