

1. Record Nr.	UNINA9910810228903321
Titolo	Formulation engineering of foods // editors, Jennifer E. Norton, Peter J. Fryer, Ian T. Norton
Pubbl/distr/stampa	Chichester U.K., : Wiley-Blackwell, c2013
ISBN	1-5231-1020-1 1-118-59765-6 1-118-59768-0 1-118-59767-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (330 p.)
Altri autori (Persone)	NortonJennifer E FryerP. J NortonIan T
Disciplina	664/.07
Soggetti	Food - Composition Food - Sensory evaluation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Title page; Copyright page; Contents; List of Contributors; 1: Introduction to Food Formulation Engineering; 1.1 Introduction; 1.2 The Book; 1.2.1 Designing structured foods; 1.2.2 Structure-human interaction; 1.2.3 Food structure and the consumer; 1.3 Conclusion; 2: Protein-Based Designs for Healthier Foods of the Future; 2.1 General Considerations Regarding Proteins in Foods; 2.2 Protein Reactions Important to Food Structure And Healthy Foods; 2.2.1 Denaturation/aggregation; 2.2.2 Racemisation; 2.2.3 Covalent modification; 2.3 Using Proteins to Form and Stabilise Structures 2.3.1 Colloidal structures2.3.2 Food structures; 2.4 Proteins in Nutrition and Health; 2.4.1 Protein quality; 2.4.2 Recommended versus actual protein intake; 2.4.3 Protein deficiency effects; 2.4.4 Excess protein effects; 2.4.5 Health implications of protein source; 2.5 Protein Intake and Satiety; 2.5.1 Sensory cues important to satiety; 2.5.2 Effects of timing and pattern of protein intake on satiety; 2.5.3 Effects of high protein pre-meal snacks on satiety; 2.5.4 Permanence of

protein-related satiety effects; 2.5.5 Protein-related satiety mechanisms
2.5.6 Thermogenic Effects of food proteins
2.6 Allergy Testing of Proteins; 2.7 Bioactive Peptides; 2.8 Recommendations for High-Protein Food Product Development; 2.9 Conclusion; 2.10 References; 3: Design of Foods Using Naturally Structured Materials; 3.1 Introduction; 3.2 So What Does This Mean for Food Processing?; 3.3 So How Do These Differences Affect Functionality?; 3.4 Recent Developments; 3.5 Examples of Commercial Samples and Their Use; 3.6 Underutilised Polymers with Natural Connotations; 3.7 Conclusions; 3.8 Acknowledgements; 3.9 References
4: Designed Food Structures Based on Hydrocolloids
4.1 Introduction; 4.2 Hydrocolloid Mixtures; 4.2.1 Water-in-water emulsions; 4.2.2 Emulsion behaviour of water-in-water emulsions; 4.3 Fluid Gel Technology; 4.4 Structuring of Water-In-Water Emulsions; 4.5 Hydrocolloid Particles from Water-In-Oil Emulsions; 4.6 Microfluidics: High-Pressure Processing; 4.7 Conclusions; 4.8 Acknowledgement; 4.9 References; 5: Formulation Engineering of Food Emulsions; 5.1 Introduction; 5.2 Emulsion Types; 5.2.1 Pickering emulsions; 5.2.2 Nano-emulsions; 5.2.3 Duplex emulsions; 5.2.4 Tri-phasic emulsions 5.2.5 Water-in-water emulsions
5.3 Conclusions; 5.4 References; 6: The Physics of Eating; 6.1 Introduction; 6.2 Chewing, Swallowing and The Machinery of the Mouth: A Mechanical Engineering Approach; 6.2.1 Mechanical components; 6.2.2 The process control mechanisms; 6.2.3 Summary; 6.3 Food Breakdown and Reassembly: A Materials Science Approach; 6.3.1 Natural structures; 6.3.2 Baked goods; 6.3.3 Dairy products; 6.3.4 Confectionary; 6.4 Conclusions; 6.5 References; 7: Design Structures for Controlled Manipulation of Flavour and Texture; 7.1 Need for Controlled Flavour and Texture Food Design
7.2 Oral Processing

Sommario/riassunto

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.
