

1. Record Nr.	UNINA9910131151203321
Titolo	Functional polymers in food science . Volume 2 Food processing : from technology to biology // edited by Giuseppe Cirillo [and three others] ; cover design by Russell Richardson
Pubbl/distr/stampa	Beverly, Massachusetts ; ; Hoboken, New Jersey : , : Scrivener Publishing : , : Wiley, , 2015 ©2015
ISBN	1-119-10856-X 1-119-10858-6 1-119-10857-8
Descrizione fisica	1 online resource (354 p.)
Collana	Polymer Science and Plastics Engineering
Disciplina	664/.09
Soggetti	Food - Packaging Polymers Food - Safety measures
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; Preface; 1 Functional Polymers for Food Processing; 1.1 Introduction; 1.2 Food Preparation; 1.2.1 Functional Polymers in Agriculture; 1.2.2 Functional Polymers and Animal Feed; 1.3 Food Processing: Rheology; 1.4 Functional Foods and Nutraceuticals; References; 2 Polyacrylamide Addition to Soils: Impacts on Soil Structure and Stability; 2.1 Introduction; 2.2 Polyacrylamide (PAM) Properties and Interactions with Soil; 2.2.1 Polymer-Clay Interactions; 2.2.2 Polymer-Bulk Soil Interactions; 2.3 Polymer Effects on Aggregate Stability 2.4 PAM Effects on Soil Saturated Hydraulic Conductivity 2.5 PAM Effects on Infiltration, Runoff and Erosion; 2.5.1 Furrow Irrigation; 2.5.2 Rain and Overhead Irrigation Conditions; 2.6 Concluding Comments; References; 3 Functional Polymeric Membrane in Agriculture; 3.1 Introduction; 3.2 Principle of Imec; 3.3 Imec System; 3.4 Plant Cultivation by Imec System; 3.5 Comparison between Imec and Hydroponics; 3.5.1 Nutrition Value; 3.5.2 Profitability; 3.6 Current

Domestic State of Ibec Growth; 3.7 Ibec Vegetables besides Tomato; 3.8 Ibec Changes Barren Land to Farming Land
3.9 Current State of Overseas Growth of IbecReferences; 4 Enzymes Used in Animal Feed: Leading Technologies and Forthcoming Developments; 4.1 Introduction: General Outline and Value Drivers; 4.2 Feed Digestive Enzymes; 4.2.1 Phytases; 4.2.2 Carbohydrases; 4.2.3 Proteases; 4.2.4 Implications of Multiple Enzyme Formulations; 4.3 Actual and Potential Feed Enzyme Market; 4.4 Advances in Feed Enzyme Technology; 4.4.1 Enhancing Enzyme Preparation Properties; 4.4.2 Other Research Demands and Unsolved Questions; 4.5 Conclusions and Future Perspectives; Acknowledgments; References
5 Interaction of Biomolecules with Synthetic Polymers during Food Processing5.1 Introduction; 5.2 Basic Biomolecules in Food and Their Interactions with Synthetic Polymers; 5.3 Membranes for Food Processing; 5.3.1 Membrane Filtration; 5.3.2 Membrane Materials and Configurations; 5.3.3 Membrane Applications in Food Industry; 5.3.4 Membrane Fouling and Its Control in Food Industry; 5.3.5 Effect of Fouling on Transmission; 5.3.6 Effect of Protein Charge on Transmission; 5.4 Chromatography for Food Processing; 5.5 Analogy of Ultrafiltration and Size Exclusion Chromatography
5.6 Future Perspectives of Membranes and ChromatographyReferences;
6 Rheological Properties of Non-starch Polysaccharides in Food Science; 6.1 Non-starch Hydrocolloids; 6.1.1 Xanthan Gum (XG); 6.1.2 Guar Gum (GG); 6.1.3 Inulin (IN); 6.1.4 Carrageenan (CA); 6.1.5 Carboxymethylcellulose (CMC); 6.2 Rheological Properties of Non-starch Hydrocolloid Systems; 6.2.1 Viscoelasticity; Nomenclature; References; 7 Polysaccharides as Bioactive Components of Functional Food; 7.1 Introduction; 7.2 Functional Foods; 7.3 Polysaccharides from Seaweed; 7.3.1 Alginates; 7.3.2 Fucoidans; 7.3.3 Carrageenans 7.3.4 Ulvans

Sommario/riassunto

Preface xiii1 Functional Polymers for Food Processing 1Giuseppe Cirillo, Umile Gianfranco Spizzirri and Francesca Iemma1.1 Introduction 11.2 Food Preparation 21.3 Food Processing: Rheology 51.4 Functional Foods and Nutraceuticals 5References 62 Polyacrylamide Addition to Soils: Impacts on Soil Structure and Stability 9Guy J. Levy and David N. Warrington2.1 Introduction 92.2 Polyacrylamide (PAM) Properties and Interactions with Soil 102.3 Polymer Effects on Aggregate Stability 142.4 PAM Effects on Soil Saturated Hydraulic Conductivity 162.5 PAM Effects on Infiltration, Runoff and Erosion 192.
