1. Record Nr. UNINA9910131548803321 Advances in food biotechnology / / edited by Ravishankar Rai V., Titolo Department of Studies in Microbiology, University of Mysore, Mysore, India Chichester, West Sussex, UK; ; Hoboken, NJ, USA:,: Wiley Blackwell,, Pubbl/distr/stampa **ISBN** 1-118-86450-6 1-118-86446-8 1-118-86447-6 Descrizione fisica 1 online resource (1368 p.) 664 Disciplina Soggetti Food - Biotechnology 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 and index. Nota di contenuto Title Page; Copyright; List of Contributors; Preface; Part I: Global Food Security: Are GMOs the Solution to the Food Security Issue?; Chapter 1: Biotechnological Approaches for Nutritionally Enhanced Food Crop Production; 1.1 Introduction; 1.2 The Case for Biofortified Food; 1.3 Nutritionally Enhanced Feed Crops; 1.4 Plants with Other Health Benefits: 1.5 Biopharmaceuticals Produced in Plants: 1.6 Genome Editing for Nutritionally Enhanced Plants; 1.7 Epigenetics and Nutritionally Enhanced Plants; 1.8 Risk Assessment and Regulation of Nutritionally Enhanced Crops; 1.9 Conclusions; References Chapter 2: Current and Emerging Applications of Metabolomics in the Field of Agricultural Biotechnology2.1 Introduction; 2.2 Metabolomics of Cereals for Food Production; 2.3 Metabolomics and its Application in the Production of Wine: 2.4 Final Remarks; Acknowledgements: References: Chapter 3: Safety Assessment of Genetically Modified Foods; 3.1 Introduction; 3.2 Safety Assessment of GM-Crop-Derived Foods: 3.3 Recurrent Items Addressed during the Food and Feed Safety Assessment; 3.4 Outlook and Future Challenges; 3.5 Conclusions;

Acknowledgements; References

Chapter 4: Towards a Universal Molecular Approach for the Quality Control of New Foodstuffs4.1 Food Quality and Safety Assessment in

the Era of Genomics; 4.2 DNA Barcoding: General Characteristics and Applications for the Analysis of Modern Foodstuffs; 4.3 Microbiological Composition of Foodstuffs; 4.4 Pathogenic Microorganisms and Food Spoilage; 4.5 Towards a Molecular Identification of Food-Related Microorganisms; 4.6 Towards a Standardized Molecular Identification of Food Raw Materials; 4.7 Next-Generation Technologies to Characterize Complex Food Matrices and their Microbiome 4.8 ConclusionsReferences; Chapter 5: Mass Spectrometry-Based Approaches in Food Safety; 5.1 Background; 5.2 Instrumentation; 5.3 Mass Spectrometry and Food Safety; 5.4 Effects of Technological Processing; 5.5 Microbiological Issues; 5.6 Genetically Modified Organisms; 5.7 Food Allergy; 5.8 Food Metabolomics; 5.9 Food Lipidomics; 5.10 Current Challenges and Perspectives; References;

Chapter 6: Feeding the World: Are Biotechnologies the Solution?; 6.1 Introduction; 6.2 Current Situation; 6.3 Proposed Solutions; 6.4 Conclusion; References; Part II: Application of Enzymes in the Food

Industry

Chapter 7: Application of Microbial Enzymes in the Food Industry7.1 Introduction; 7.2 The Main Enzymes; 7.3 Main Microorganism Producers of Enzymes; 7.4 Marine Microbial Enzymes; 7.5 Dairy Industry; 7.6 Microbial Enzymes Applied in the Beverage Industry; 7.7 Animal Feed; 7.8 Targeting Microbial Enzymes of Industrial Interest; 7.9 Mathematical Models for Enhanced Enzyme Production; Acknowledgements; References; Chapter 8: Enzymatic Modification of Proteins and Starches for Gluten-Free and Low-Glycaemic-Index Foods for Special Dietary Uses; 8.1 Introduction; 8.2 Foods for Special Dietary Uses

8.3 Wheat Constituents that may Trigger Adverse Reactions