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Titolo	Biotechnology in flavor production [[electronic resource] /] / edited by Daphna Havkin-Frenkel, Faith C. Belanger
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Altri autori (Persone)	Havkin-FrenkelD <1951-> (Daphna) BelangerFaith C
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Nota di contenuto	Biotechnology in Flavor Production; Contributors; Preface; Chapter 1 The development of yeast strains as tools for adjusting the flavor of fermented beverages to market specifications Jan H. Swiegers, Sofie M.G. Saerens and Isak S. Pretorius; Introduction; Wine; Beer; Sake; Wine, beer and sake yeasts; Wine yeasts; Beer yeasts; Sake yeasts; Acids; Non-volatile acids; Volatile acids; Alcohols; Ethanol; Glycerol; Higher alcohols; Esters; Carbonyl compounds; Acetaldehyde; Diacetyl; Volatile phenols; Sulfur compounds; Sulfides; Mercaptans; Thiols; Monoterpeneoids; Conclusion; References Chapter 2 Biotechnology of flavor production in dairy products Bart C. Weimer, Sweta Rajan and Balasubramanian Ganesan Introduction; Biochemistry of dairy fermentations; Biotechnology and flavor; Flavor production from bacteria; Comparative genomics of flavor production; Expression and metabolite analysis; Non-culturable lactococci; Summary; References; Chapter 3 Biotechnological production of vanillin Daphna Havkin-Frenkel and Faith C. Belanger; Introduction; Biosynthesis of vanillin; Natural occurrence of vanillin; Site of vanillin

production in vanilla beans

Vanillin biosynthetic pathway in *V. planifolia* Production of vanillin by biotechnology; Introduction; Use of microorganisms; Use of plant tissue culture; Use of enzymes; Use of physical and mild chemistry; Synthetic vanillin; Vanillin from vanilla beans; Regulations; Conclusions and future outlook; References; Chapter 4 Plant cell culture as a source of valuable chemicals Chee-Kok Chin; Introduction; Establishment of callus culture; Initiation and maintenance of cell culture; Production of valuable chemicals by cultured plant cells; Concluding remarks; References

Chapter 5 Tomato aroma: Biochemistry and biotechnology Rachel Davidovich-Rikanati, Yaniv Azulay, Yaron Sitrit, Yaakov Tadmor and Efraim Lewinsohn The major aroma impact volatiles in tomato and their biosynthetic pathways; Biosynthesis of tomato volatiles; Degradation of fatty acids; Volatiles derived from amino acids; Terpenes; Carotenoid pigmentation affects the flavor and volatile composition of tomato fruit; Genetic engineering of tomato aroma; Conclusion; References; Chapter 6 Flavor development in rice Louis M.T. Bradbury, Robert J. Henry and Daniel L.E. Waters; Introduction; Old flavors of rice
Rice texture Fragrant rice; The chemistry of rice fragrance; The genetics of rice fragrance; BAD enzymes and 2AP synthesis; The future; References; Chapter 7 Breeding and biotechnology for flavor development in apple (*Malus domestica* Borkh.) Susan K. Brown; Quality; Apple volatiles; Ester compounds and ester biosynthesis; Measurement techniques; Varietal and developmental differences; Effect of storage; Effect of processing; Effect of 1-methylcyclopropene treatment; Hypoxia; Gene isolation; Genetic studies, linkage maps and marker-assisted selection; ESTs; Transgenic approaches
Ethylene production and softening (ACS-ACO)

Sommario/riassunto

Biotechnology can deliver complex flavors both as fermentation products and single constituents. Recent developments in transgenic research have spawned numerous studies in the use of metabolic engineering of biosynthetic pathways to produce high-value secondary metabolites that can enhance the flavors of food products. Biotechnology is also playing an increasingly important role in the breeding of food crops for enhanced flavor. This book provides a unique overview of the current state of the art of flavor production through biotechnology, examining the principles and current met

2. Record Nr.	UNINA9910700835803321
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Pubbl/distr/stampa	Arlington, VA : , : CENTRA Technology, Inc., , 2011
Descrizione fisica	1 online resource (142 pages) : illustrations (chiefly color)
Soggetti	Science and state - China Technology and state - China Military-industrial complex - China Semiconductor industry - China Nuclear industry - China Nanostructured materials industry - China Technology transfer Military-industrial complex Nanostructured materials industry Nuclear industry Science and state Semiconductor industry Technology and state China
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Note generali	"The information in this report is current as of January 2011"--Page 1.
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	The Commission asked CENTRA to 1) examine and assess national-level programs from the 1980s to the present; 2) assess linkages between China's science policy and its industrial policy; 3) assess the methods commonly employed by the PRC to support its scientific modernization through interactions with the United States and other

Western entities; and 4) analyze identifiable policy linkages between the Chinese government's broader science and technology efforts and the capacities of China's defense-industrial complex. The report addresses the implications for US competitiveness by speculating on the potential for PRC science policies and programs to promote the development of an internationally-competitive national innovation system. Case studies on the semiconductor, nuclear energy, and nanotechnology sectors in China address these questions in areas relevant to the Commission's interests, while avoiding overlaps with previous and ongoing USCC research.
