1. Record Nr. UNINA9910298346003321

Titolo	Plant Biotechnology : Experience and Future Prospects / / edited by Agnès Ricroch, Surinder Chopra, Shelby J. Fleischer
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	9783319068923 331906892X
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (290 p.)
Disciplina	333.7 570 571.92 595.7
Soggetti	Agriculture Plant breeding Plant diseases Entomology Ecology Plant Breeding/Biotechnology Plant Pathology Environment, general
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 at the end of each chapters.
Nota di contenuto	1: Introduction -- 2: The Evolution of Agriculture and Tools for Plant Innovations -- 3: Techniques of Plant Breeding: Field Crops -- 4: Genomic Methods for Improving Abiotic Stress Tolerance in Crops -- 5: Transgenic Crops and Food Security -- 6: Intellectual Property Protection of Plant Innovation -- 7: Prospects for Agricultural Biotechnology to 2030 -- 8: Genetically Engineered Crops and Rural Society -- 9: Is It Possible to Overcome the GMO Controversy? Some Elements for a Philosophical Perspective -- 10: Sustainable Management of Insect-Resistant Crops -- 11: Effects of GM Crops on Non-Target Organisms -- 12: Herbicide-Resistant Crop Biotechnology:

Potential and Pitfalls -- 13: Virus-Resistant Crops and Trees -- 14: Role of Biotechnology to Produce Plants Resistant to Fungal Pathogens -- 15: Root Traits for Improving Nitrogen Acquisition Efficiency -- 16: Biotech Approaches for Crop Improvement in The Semi-Arid Tropics -- 17: Sustainable Soil Health -- 18: Approaches for Vegetable and Fruit Quality Trait Improvement -- 19: Bio fortification. Vitamin A Deficiency and the Case for Golden Rice -- 20: Production of Medicines from Engineered Proteins in Plants: Proteins for a New Century.

Sommario/riassunto

By the year 2050, there will be more than 9 billion people in the world; nearly 3 billion more than today. The world's population will increase by over 700 million in the next 10 years – much of it in regions which are currently in a food deficit. How can governments ensure a secure and stable food supply for their citizens? Can current agricultural production practices and technologies provide for an expanding population in a sustainable manner? In the February 2010 summit of the Organization for Economic Cooperation and Development (OECD), agricultural ministers recognized the necessity that "innovation, including transfer of technologies, is fostered in order to increase productivity, enhance efficiency, improve sustainable resource use, respond to climate change and reduce waste including through balanced protection of intellectual property rights, and a regulatory environment conducive to innovation and new technology." Technology alone cannot solve problems associated with food supply and distribution – they have not done so in the past, and will not do so in the future. But biotechnological innovations have played crucial roles, and will do so in the future. Students of many disciplines and the general public are interested in examining the development and adoption of innovative biotechnologies applied in agriculture in the world's largest economies and in developing countries, which are themselves changing rapidly to address these concerns. We are now approaching two decades of experience of deployment of transgenic crops in agroecosystems, and we are still very much in the early stages of technological development, deployment and adoption of resulting plants (cereals, vegetables and trees). What are these biotechnologies today that can enhance agricultural productivity and produce medicines, how are they currently deployed, what are some near-term realistic expectations, if these biotechnologies are to be a part of sustainable agriculture?