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Titolo	Genetically Modified Crops : Current Status, Prospects and Challenges Volume 1 / / edited by P. B. Kavi Kishor, Manchikatla Venkat Rajam, T. Pullaiah
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Disciplina	631.5233
Soggetti	Plant genetics Plant biotechnology Botanical chemistry Plant physiology Agriculture Biomaterials Nucleic acids Plant Genetics Plant Biotechnology Plant Biochemistry Plant Physiology Nucleic Acid
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Nota di contenuto	Chapter 1.Genetic tinkering of crops for sustainable development – 2020 and Beyond -- Chapter 2.Genetic improvement of rice for food and nutritional security 3.Improvement of wheat (Triticum spp.) through gene manipulation -- Chapter 4. Transgenic finger millet [Eleusine coracana (L.) Gaertn.] for crop improvement -- Chapter 5. Transgenic pigeon pea [Cajanus cajan (L). Millsp.] -- Chapter 6. Genetically engineered chickpea: Potential of an orphan legume to achieve food and nutritional security by 2050 -- Chapter 7. Progress in genetic engineering of cowpea for insect pest and virus resistance -- Chapter 8. Peanut (Arachis hypogaea L.) transgenic plants for abiotic

stress tolerance -- Chapter 9. Genetic engineering of sunflower (Helianthus annuus L.) for important agronomic traits -- Chapter 10. Genetic engineering in safflower (Carthamus tinctorius L.): Retrospect and prospect -- Chapter 11. Nutritional value, in vitro regeneration and development of transgenic Cucurbita pepo and C.maxima for stress tolerance: An overview -- Chapter 12. Sugarcane transgenics: Developments and opportunities .

Sommario/riassunto

Genetic transformation is a key technology, in which genes are transferred from one organism to another in order to improve agronomic traits and ultimately help humans. However, there is apprehension in some quarters that genetically modified crops may disturb the ecosystem. A number of non-governmental organizations continue to protest against GM crops and foods, despite the fact that many organisms are genetically modified naturally in the course of evolution. In this context, there is a need to educate the public about the importance of GM crops in terms of food and nutritional security. This book provides an overview of various crop plants where genetic transformation has been successfully implemented to improve their agronomically useful traits. It includes information on the gene(s) transferred, the method of gene transfer and the beneficial effects of these gene transfers and agronomic improvements compared to the wild plants. Further, it discusses the commercial prospects of these GM crops as well as the associated challenges. Given its scope, this book is a valuable resource for agricultural and horticultural scientists/experts wanting to explain to the public, politicians and non-governmental organizations the details of GM crops and how they can improve crops and the lives of farmers.

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Autore	Winston Roland
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Note generali	"This books is a successor to High collection nonimaging optics published by Academic Press in 1989, and Optics of nonimaging concentrators, published 10 years earlier, by W.T. Welford and R. Winston."--Pref.
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Nota di contenuto	Front Cover; NONIMAGING OPTICS; Copyright Page; CONTENTS; Preface; Chapter 1. Nonimaging Optical Systems and Their Uses; 1.1 Nonimaging Collectors; 1.2 Definition of the Concentration Ratio; The Theoretical Maximum; 1.3 Uses of Concentrators; 1.4 Uses of Illuminators; References; Chapter 2. Some Basic Ideas in Geometrical Optics; 2.1 The Concepts of Geometrical Optics; 2.2 Formulation of the Ray-Tracing Procedure; 2.3 Elementary Properties of Image-Forming Optical Systems; 2.4 Aberrations in Image-Forming Optical Systems 2.5 The Effect of Aberrations In an Image-Forming System on the Concentration Ratio2.6 The Optical Path Length and Fermat's Principle; 2.7 The Generalized etendue or Lagrange Invariant and the Phase Space Concept; 2.8 The Skew Invariant; 2.9 Different Versions of the

Concentration Ratio; Reference; Chapter 3. Some Designs of Image-Forming Concentrators; 3.1 Introduction; 3.2 Some General Properties of Ideal Image-Forming Concentrators; 3.3 Can an Ideal Image-Forming Concentrator Be Designed?; 3.4 Media with Continuously Varying Refractive Indices; 3.5 Another System of Spherical Symmetry
3.6 Image-Forming Mirror Systems3.7 Conclusions on Classical Image-Forming Concentrators; References; Chapter 4. Nonimaging Optical Systems; 4.1 Limits to Concentration; 4.2 Imaging Devices and Their Limitations; 4.3 Nonimaging Concentrators; 4.4 The Edge-Ray Principle or "String" Method; 4.5 Light Cones; 4.6 The Compound Parabolic Concentrator; 4.7 Properties of the Compound Parabolic Concentrator; 4.8 Cones and Paraboloids As Concentrators; References; Chapter 5. Developments and Modifications of the Compound Parabolic Concentrator; 5.1 Introduction
5.2 The Dielectric-Filled CPC with Total Internal Reflection5.3 The CPC with Exit Angle Less Than /2; 5.4 The Concentrator for A Source at A Finite Distance; 5.5 The Two-Stage CPC; 5.6 The CPC Designed for Skew Rays; 5.7 The Truncated CPC; 5.8 The Lens-Mirror CPC; 5.9 2D Collection in General; 5.10 Extension of the Edge-Ray Principle; 5.11 Some Examples; 5.12 The Differential Equation for the Concentrator Profile; 5.13 Mechanical Construction for 2D Concentrator Profiles; 5.14 A General Design Method for A 2D Concentrator with Lateral Reflectors
5.15 Application of the Method: Tailored Designs5.16 A Constructive Design Principle for Optimal Concentrators; References; Chapter 6. The Flow-line Method for Designing Nonimaging Optical Systems; 6.1 The Concept of the Flow Line; 6.2 Lines of Flow from Lambertian Radiators: 2D Examples; 6.3 3D Example; 6.4 A Simplified Method for Calculating Lines of Flow; 6.5 Properties of the Lines of Flow; 6.6 Application to Concentrator Design; 6.7 The Hyperboloid of Revolution As A Concentrator; 6.8 Elaborations of the Hyperboloid: the Truncated Hyperboloid; 6.9 The Hyperboloid Combined with A Lens
6.10 The Hyperboloid Combined With Two Lenses

Sommario/riassunto

From its inception nearly 30 years ago, the optical subdiscipline now referred to as nonimaging optics, has experienced dramatic growth. The term nonimaging optics is concerned with applications where imaging formation is not important but where effective and efficient collection , concentration, transport and distribution of light energy is - i.e. solar energy conversion, signal detection, illumination optics, measurement and testing. This book will incorporate the substantial developments of the past decade in this field.* Includes all substantial developments of the past decade in