Genetically Modified Crops And Food

Genetically Modified Organisms can be difficult to understand. These laboratory-modified plants and animals are a controversial part of the agricultural industry and a person's diet. This book explores the pros and cons of these modified crops, such as corn, rice, and soybeans. While exploring what changes scientists make to these plants and how these changes impact their consumption, it also studies the potential risks of altering natural genetic material and how consuming GMOs impacts humans. As future development of GMOs such as corn and salmon progresses, governments and their citizens face difficult decisions about whether GMOs should enter the food supply, and about the safety of these incredible technological developments.

Genetically Engineered Foods, Volume 6 in the Handbook of Food Bioengineering series, is a solid reference for researchers and professionals needing information on genetically engineered foods in human and animal diets. The volume discusses awareness, benefits vs. disadvantages, regulations and techniques used to obtain, test and detect genetically modified plants and animals. An essential resource offering informed perspectives on the potential implications of genetically engineered foods for humans and society. Written by a team of scientific experts who share the latest advances to help further more evidence-based research and educate scientists, academics and government professionals about the safety of the global food supply. Provides in-depth coverage of the issues surrounding genetic engineering in foods Includes hot topic areas such as nutragenomics and therapeutics to show how genetically engineered foods can promote health and potentially cure disease Presents case studies where genetically engineered foods can increase production in Third World countries to promote food security Discusses environmental and economic impacts, benefits and risks to help inform decisions

Environmental Politics Casebook: Genetically Modified Foods includes testimony, journal and newspaper articles, book chapters, and interest group communications such as press releases and on-line briefs, as well as other studies and reports that constitute the principal elements of the public debate on the genetic modification of food. A companion to Environmental Politics: Interest Groups, the Media, and the Making of Policy, it provides the substantive, detailed, case-in-point application for practices and principles previously discussed only in theory, keeping the basic text compact and current.

The debate over genetically modified organisms: health and safety concerns, environmental impact, and scientific opinions. Since they were introduced to the market in the late 1990s, GMOs (genetically modified organisms, including genetically modified crops), have been subject to a barrage of criticism. Agriculture has welcomed this new technology, but public opposition has been loud and scientific opinion mixed. In GMOs Decoded, Sheldon Krimsky examines the controversies over GMOs—health and safety concerns, environmental issues, the implications for world hunger, and the scientific consensus (or lack of one). He explores the viewpoints of a range of GMO skeptics, from public advocacy groups and nongovernmental organizations to scientists with differing views on risk and environmental impact. Krimsky explains the differences between traditional plant breeding and "molecular breeding" through genetic engineering (GE); describes early GMO products, including the infamous Flavr Savr tomato; and discusses herbicide-, disease-, and insect-resistant GE plants. He considers the different American and European approaches to risk assessment, dueling scientific interpretations of plant genetics, and the controversy over labeling GMO products. He analyzes a key 2016 report from the National Academies of Sciences on GMO health effects and considers the controversy over biofortified rice (Golden Rice)—which some saw as a humanitarian project and others as an exercise in public relations. Do GMO crops hold promise or peril? By offering an accessible review of the risks and benefits of GMO crops, and a guide to the controversies over them, Krimsky helps readers judge for themselves.

Current Status, Prospects and Challenges Volume 1

A Global Perspective

Genetically Modified Crops and Agricultural Development

Approaches to Assessing Unintended Health Effects

Environmental Politics Casebook

Genetically Modified Food Sources reports detailed results of studies on the medical and biological safety of 14 species of genetically modified plant-derived organisms (GMOs). The authors focus on issues in GMO production and world output, specifically the basic legislative regulations of modern biotechnology in the Russian Federation. Also covered are international approaches to the medical and biological assessment of safety and control of the food produced from genetically modified organisms. A special chapter is devoted to the problem of informational coverage of novel biological technologies. Previously available only in a 2007 Russian-language edition published by the Russian Academy of Medical Sciences, this English translation has been completely revised and updated to include the latest developments in regulations and human and animal safety assessment practices. The book is addressed to a wide community of specialists working in the fields of food science, plant genetics, and food safety as well as medicine and biology. Students and postgraduates focusing on the problems of modern biotechnology and biological safety will find it a valuable guide to these topics. Specific assessments of 14 species of genetically modified plant-derived organisms used for food supply Addresses the safety assessment requirements to ensure consumer health International coverage provides comparative insights into regulation development and application

Primary and secondary source documents discuss the evolution of genetically modified crops, their impact on society, and the laws that govern their use and sale.

Genetically Modified Organisms in Food focuses on scientific evaluation of published research relating to GMO food products to assert their safety as well as potential health risks. This book is a solid reference for researchers and professionals needing information on the safety of GMO and non-GMO food production, the economic benefits of both GMO and non-GMO foods, and includes in-depth coverage of the surrounding issues of genetic engineering in foods. This is a timely publication written by a team of scientific experts in the field who present research results to help further more evidence based research to educate scientists, academics, government professionals about the safety of the global food supply. Provides the latest on research and development in the field of GMOs and non-GMO safety issues and possible risk factors incorporating evidence based reviews for a better understanding of these issues Covers various aspects of GMO production, analysis and identification to better understand GMO development and use Includes definitions, a brief overview and history of GM foods from a global perspective and concise summaries with recommendations for actions for each chapter

This book analyzes the impacts of current and possible future GM crop applications and shows that these technologies can contribute substantially to sustainable agricultural development and food security.

Seeds of Contention

Genetically Engineered Foods

Secrets You Need to Know about Genetically Modified Foods

Safety Assessment and Control

The Promise of Food Biotechnology

. Are you are unknowingly eating genetically modified foods? - 60-80% of foods on our grocery store shelves contain genetically modified ingredients . Find out which foods most likely contain genetically engineered ingredients . Discover if these foods live up to their promise of fewer pesticides used . Understand the potential risks and benefits of genetically engineered foods . Hear how genes from these plants are jumping to others and affecting animals . Learn about the new second generation: Plants that produce plastics and pharmaceutical drugs! . You and your family can step out of the experiment - find out how . Learn how to ask for more research before more of these technologies are tested on you

Policy Issues in Genetically Modified Crops: A Global Perspective contains both theoretical and empirical evidence of a broad range of aspects of GM crop policies throughout the world. Emphasizing world agriculture production and ethics of GM crops, the book balances insights into the various discussions around the use of GM crops including soil health, effects on animals, environmental sustainability impact, and ethical issues. The book presents aspects of GM crop policies and prevailing controversies throughout the world, in 5 sections containing 23 chapters. Beginning with the discussion of the policies related to GM crops, the book dives deep into issues related to food insecurity, agricultural sustainability, food safety, and environmental risks. Section 5 also captures the recent advances in agricultural biotechnology encompassing research trends, the nano-biotech approach to plant genetic engineering, and other transformation techniques in crop development. The contributors of the book represent different backgrounds, providing a holistic overview of diverse approaches and perspectives. Policy Issues in Genetically Modified Crops: A Global Perspective is a valuable resource for researchers in agricultural policy and economics, agricultural biotechnology, soil science, genetic engineering, ethics, environmental management, sustainable development, and NGOs. Discusses ethics, varieties, research trends, success, and challenges of genetic modification Addresses both crop production and potential health impacts Includes extensive theoretical research and studies

There has never been a Genetically modified food Guide like this. It contains 115 answers, much more than you can imagine; comprehensive answers and extensive details and references, with insights that have never before been offered in print. Get the information you need--fast! This all-embracing guide offers a thorough view of key knowledge and detailed insight. This Guide introduces what you want to know about Genetically modified food. A quick look inside of some of the subjects covered: Genetically modified food - Lecithin, Genetic engineering - Controversy, Nanotoxicology - Human health and safety, Potato - Genetics, Religious views on genetically modified foods, Transgenic maize - Controversy, Genetically modified soybean, Genetically modified crops - Controversy, Genetically modified food controversies - Animal feeding studies, Technoethics - Genetically modified organisms, Business ethics - Production, DuPont - Current activities, Genetic engineering in the United States - Food and Drug Administration, Blue Biotechnology - Regulation, Starlink corn recall, Genetically modified food controversies - Escape of GM crops, Technoethics - Genetically modified organisms, Plant breeding - Issues and concerns, Genetically modified food controversies - Scientific publishing, Modified starch - Genetically modified starch, Bt cotton - Controversies, Agriculture - Contemporary agriculture, Red Biotechnology - Agriculture, BASF Plant Science - Products, Substantial equivalence, Economics, Genetically modified wheat - Escape of GM wheat seed, Recombinant DNA - Applications of recombinant DNA technology, Genetically modified fish, Food - Moral, ethical, and health-conscious diets, Genetically modified rice - Allergy resistance, Genetically modified food controversies - Indian controversies, and much more...

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.

The Food Chain

Basics, Applications, and Controversy

Scientific Advice to Government: Genetically Modified Food and Appended Genetically Modified Crops: the Social and Ethical Issues

115 Most Asked Questions on Genetically Modified Food - What You Need to Know

How to Find Information

This book introduces readers to food safety assessment research on Genetically Modified Organisms (GMOs). As is broadly known, the main concerns about GM foods' adverse effects on health are the nutrients, toxicity, allergenicity and unexpected effects. Before GMOs can be made commercially available, a comprehensive food safety assessment - taking these concerns into account - must first be performed. Exploring these aspects, the book is divided into two parts: the first part focuses on the safety assessment guidelines of the CAC, while the second highlights new methods used for the evaluation of GMOs' safety. Offering an essential, practical guide, it will be of interest to researchers and graduate students in the fields of food science and public health.

This volume richly explores the controversy surrounding the development of genetically modified foods and their use for human consumption, including health concerns and the potential environmental impact. Author Kevin Hillstrom presents a well-researched and unbiased overview on the topic that includes discussion of the history of G.M. foods and how they are created, the benefits of growing G.M. foods, and the potential dangers and concerns. Experts on both sides of the issue are quoted with full source notes for quotes provided at the end of the text.

Attitudes to GM crops continue to generate tension, even though they have been grown commercially for over 20 years. Negative sentiment towards their development limits their adoption in Western countries, despite there being no evidence of harm to human health. These unfounded concerns about genetically modified crops have also inhibited uptake in many countries throughout Africa and Asia, having a major impact on agricultural productivity and preventing the widespread cultivation of potentially life-saving crops. GM Crops and the Global Divide traces the historical importance that European attitudes to past colonial influences, aid, trade and educational involvement have had on African leaders and their people. The detrimental impact that these attitudes have on agricultural productivity and food security continues to be of growing importance, especially in light of climate change, drought and the potential rise in sea levels - the effects of which could be mitigated by the cultivation of GM and gene-edited crops. Following on from her previous books Genes for Africa, GM Crops: The Impact and the Potential and Food for Africa, Jennifer Thomson unravels the reasons behind these negative attitudes towards GM crop production. By addressing the detrimental effects that anti-GM opinions have on nutrition security in developing countries and providing a clear account of the science to counter these attitudes, she hopes to highlight and ultimately bridge this global divide.

Throughout the world today the debate still rages over whether genetically modified food is a blessing or a curse. On one hand, genetically modified food allows farmers to grow crops in places where standard crops won't grow. They can also reduce people's reliance on dangerous pesticides. On the other hand, there is much that is still unknown about such foods, and their effects on human and animal health, the environment, local economies, and biodiversity. In this book, readers learn about all these issues and concerns so that they can gain an understanding of the effects that raising and consuming genetically modified organisms have on the environment and on their bodies.

Production, Safety, Regulation and Public Health

Genetically modified crops in Africa

Safety Assessment of Genetically Modified Foods

Safety of Genetically Engineered Foods

Genetically Modified Crops and Food Security

This collection of essays explores whether genetically modified foods are safe to eat, how the environment is impacted by GM foods, and the effectiveness of government regulation around GM foods.

Plant molecular biology came to the fore in the early 1980s and there has been tremendous growth in the subject since then. The study of plant genes and genomes and the development of techniques for the incorporation of novel or modified genes into plants eventually led to the commercialisation of genetically modified (GM) crops in the mid-1990s. This was seen as the start of a biotechnological revolution in plant breeding. However, plant biotechnology has become one of the hottest debates of the age and, in Europe at least, one of the greatest challenges that plant scientists have ever faced. This book covers the history and development of the science and techniques that underpin plant biotechnology. It describes the GM crops that are or have been grown commercially around the world, including failures as well as successes, and the new varieties that are being developed. The safety record of GM crops is reviewed together with the legislation that has been adopted to cover their use. The book also deals with the concerns of consumers, the GM crop debate and the prospects for the technology. In the second edition, sections on current GM crops and future developments in plant biotechnology have been greatly expanded, while those on techniques, legislation and the GM crop debate have also been updated. The book is a concise, comprehensive and readable study that is accessible to a general readership with a scientific background but also provides useful information for the specialist.

In recent years the media have reported on the increasing use of genetically modified crops in agriculture. This text focuses attention on the less discussed issues of the potential benefits of genetically modified crops for developing countries.

Genetically modified crops are plants used in agriculture, the DNA of which has been modified using genetic engineering methods. In most cases, the aim is to introduce a new trait to the plant which does not occur naturally in the species. Examples in food crops include resistance to certain pests, diseases, or environmental conditions, reduction of spoilage, or resistance to chemical treatments, or improving the nutrient profile of the crop. Recently rapid advances in the development and commercialization of transgenic crops across the world have been witnessed both in terms increased crop coverage and economic benefits.

Genetically modified foods are foods derived from genetically modified organisms have had specific changes introduced into their DNA by genetic engineering techniques. The main aim of genetically modified crops is to produce a food that is able to survive even if any harmful chemicals or pesticides or herbicides are sprayed. Other benefit of genetically modified crops is to make food stay fresh for a long time. Some of genetically modified crops and food are corn, tomato, beets, potatoes, sprouts and alfalfa. It involves the insertion or deletion of genes. Examples in non-food crops include production of pharmaceutical agents, biofuels, and other industrially useful goods, as well as for bioremediation. This book covers those facets, from the source of the gene, compositions of a gene construct, method of gene delivery, and result of gene integration and expression, to effects of the transgene on plants and the ecology.

With Greg Hottinger, MPH, RD, Author of the Best Natural Foods on the Market Today; A Yuppie's Guide to Hippy Food

Critical Perspectives on Genetically Modified Crops and Food

Genetically Modified Food Sources

Global Citizens Report on Genetically Modified Crops and Food

Genetically Modified Crops in Agriculture

GMOs DecodedA Skeptic's View of Genetically Modified FoodsMIT Press

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 concern 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 the 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. It also appeals to researchers and postgraduate students. This volume focuses on the transgenics of mungbean, cowpea, chickpea, cotton, mulberrry, Jatropha, fingermillet, papaya, citrus plants and cassava. It also discusses CRISPR edited lines.

The genetic modification of crops continues to be the subject of intense debate, and opinions are often strongly polarised. Environmental Impact of Genetically Modified Crops addresses the major concerns of scientists, policy makers, environmental lobby groups and the general public regarding this controversial issue, from an editorially neutral standpoint. While the main focus is on environmental impact, food safety issues, for both humans and animals are also considered. The book concludes with a discussion on the future of agricultural biotechnology in the context of sustainability, natural resource management and future global population and food supply.

Genetically engineered (GE) crops were first introduced commercially in the 1990s. After two decades of production, some groups and individuals remain critical of the technology based on their concerns about possible adverse effects on human health, the environment, and ethical considerations. At the same time, others are concerned that the technology is not reaching its potential to improve human health and the environment because of stringent regulations and reduced public funding to develop products offering more benefits to society. While the debate about these and other questions related to the genetic engineering techniques of the first 20 years goes on, emerging genetic-engineering technologies are adding new complexities to the conversation. Genetically Engineered Crops builds on previous related Academies reports published between 1987 and 2010 by undertaking a retrospective examination of the purported positive and adverse effects of GE crops and to anticipate what emerging genetic-engineering technologies hold for the future. This report indicates where there are uncertainties about the economic, agronomic, health, safety, or other impacts of GE crops and food, and makes recommendations to fill gaps in safety assessments, increase regulatory clarity, and improve innovations in and access to GE technology.

Genetically Modified Food

Genetically Modified Crops and Foods

Commercial, Ethical and Health Considerations

World Hunger and the Global Controversy Over GM Crops

GM Crops and the Global Divide

An increasingly hot-button issue, genetically modified (GM) food is considered by some as the best way to feed the world's growing population, and by others as an experiment gone wrong on the unsuspecting public. Genetically Modified Foods: Basics, Applications, and Controversy details the basics of biotechnology and its applications in the laborat

Genetically modified foods are foods derived from genetically modified organisms have had specific changes introduced into their DNA by genetic engineering techniques. The main aim of genetically modified crops is to produce a food that is able to survive even if any harmful chemicals or pesticides or herbicides are sprayed. Genetically engineered foods have had their DNA changed using genes from other plants or animals. Scientists take the gene for a desired trait in one plant or animal, and they insert that gene into a cell of another plant or animal. Genetic engineering can be done with plants, animals, or bacteria and other very small organisms. Genetic engineering allows scientists to move desired genes from one plant or animal into another. Genes can also be moved from an animal to a plant or vice versa. Genetic engineering also helps speed up the process of creating new foods with desired traits. Genetically modified material sounds a little bit like science fiction territory, but in reality, much of what we eat on a daily basis is a genetically modified organism. Whether or not these modified foods are actually healthy is still up for debate-and many times, you don't even know that you are buying something genetically modified. The book will be of help to researcher in the field of agriculture, crop improvement, biotechnology etc. It will also be helpful to teachers and students for better understanding of the subject.

Globalization has impacted many aspects of life, and the food chain is no exception. Approximately one-quarter of America's food supply is imported, and while food production and manufacturing companies financially benefit from sourcing food from other countries, regulating these food sources becomes increasingly difficult. How does food regulation and inspection differ between countries? What can be done to ensure food imported from other countries is safe for consumption, and how can we make sure people involved in the food production process around the world are treated ethically? Readers will explore the many considerations affecting the global food chain.

Genetically Modified Food helps readers trace the history of GMOs, explore the science behind it, understand why and how we utilize them, and discuss controversies concerning GMOs from an objective viewpoint. The title will engage readers on the topic and help them to weigh the pros and cons as they make their own food decisions. Aligned to Common Core Standards and correlated to state standards. Core Library is an imprint of Abdo Publishing, a division of ABDO.

Genetically Modified Crops and Food

Current Status, Prospects and Challenges Volume 2

Genetically Modified Crop Production: Social Sciences, Agricultural Economics, and Costs and Benefits of Coexistence

Genetically Modified Crops in Asia Pacific

Assists policymakers in evaluating the appropriate scientific methods for detecting unintended changes in food and assessing the potential for adverse health effects from genetically modified products. In this book, the committee recommended that greater scrutiny should be given to foods containing new compounds or unusual amounts of naturally occurring substances, regardless of the method used to create them. The book offers a framework to guide federal agencies in selecting the route of safety assessment. It identifies and recommends several pre- and post-market approaches to guide the assessment of unintended compositional changes that could result from genetically modified foods and research avenues to fill the knowledge gaps.

Genetically modified crops have become a topic of great interest among scientists, regulators, consumers, farmers, and politicians. Despite their potential benefits, public hostility toward these crops is causing dramatic changes to import/export policies, food safety regulations, and agricultural practices around the world. Genetically Modified Organisms in Agriculture provides a comprehensive overview of the subject and a balanced look at the costs and benefits of GMO products. Part I reviews the scientific, economic, and political issues relating to the use of agricultural GMOs. Chapters cover specific applications, regulatory concerns, import/export patterns, international trade issues, and a discussion of future trends. Part II offers a unique look at all sides of the GMO controversies, with short chapters contributed by leading individuals with widely different perspectives. Part III presents a more in-depth look at selected issues plus helpful reference materials. This book makes the latest information on GMOs accessible to all interested parties, including students, laypeople, scientists, activists, and professionals working in related fields. * Additional detailed footnotes and references for the academic * International contributions from the US, Europe and India * Covers the perspectives of different groups involved in the controversies: governments, environmental agencies, consumers, industrial agencies and the developing world

A variable climate, political instability, and other constraints have limited agricultural development in African countries south of the Sahara. Genetically modified (GM) crops are one tool for enhancing agricultural productivity and food security despite such constraints. Genetically Modified Crops in Africa: Economic and Policy Lessons from Countries South of the Sahara investigates how this tool might be effectively used by evaluating the benefits, costs, and risks for African countries of adopting GM crops. The authors gather together studies on GM crops' economic effects and impact on trade, how consumers view such crops, and other issues. They find that GM crops have had, on average, a positive economic effect in the nations where they were used and identify future steps for enhancing GM crop adoption's positive effects. Promising policy initiatives include making biosafety regulations that do not make GM crop development prohibitively expensive, fostering intraregional trade in GM crops, and providing more and better information about GM crops to consumers who might currently be skeptical of them. These and other findings in Genetically Modified Crops in Africa indicate ways biotechnology can contribute to economic development in Africa south of the Sahara.

This title gives readers a balanced look at the issue of genetically modified foods and the surrounding arguments. Readers will learn about the history of genetically modified foods, as well as political aspects of the debate and concerns regarding expense, the environment, culture, and religion. Additionally, the use of genetically modified foods to help food markets in third-world countries is explained. Also covered are business practices, including biotechnology and patents. Color photos and informative sidebars accompany easy-to-follow text. Features include a timeline, facts, additional resources, web sites, a glossary, a bibliography, and an index. Essential Viewpoints is a series in Essential Library, an imprint of ABDO Publishing Company.

Genetically Engineered Crops

Economic and policy lessons from countries south of the Sahara

Genetically Modified Crops

Citizens Vote for GMO-free Food

Regulation, Inspection, and Supply

Meeting future food needs without compromising environmental integrity is a central challenge for agriculture globally but especially for the Asia Pacific region where 60% of the global population, including some of the world's poorest, live on only 30% of the land mass. To guarantee the food security of this and other regions, growers worldwide are rapidly adopting genetically modified (GM) crops as the forerunner to protect against many biotic and abiotic stresses. Asia Pacific countries play an important role in this, with India, China and Pakistan appearing in the top 10 countries with acreage of GM crops, primarily devoted to Bt cotton. Genetically Modified Crops in Asia Pacific discusses the progress of GM crop adoption across the Asia Pacific region over the past two decades, including research, development, adoption and sustainability, as well as the cultivation of insect resistant Bt brinjal, drought-tolerant sugarcane, late blight resistant potato and biotech rice more specific to this region. Regulatory efforts of the Asia Pacific member nations to ensure the safety of GM crops to both humans and the environment are also outlined to provide impetus in other countries initiating biotech crops. The authors also probe into some aspects of gene editing and nanobiotechnology to expand the scope into next generation GM crops, including the potential to grow crops in acidic soil, reduce methane production, remove poisonous elements from plants and improve overall nutritional quality. Genetically Modified Crops in Asia Pacific provides a comprehensive reference not only for academics, researchers and private sectors in crop systems but also policy makers in the Asia Pacific region. Beyond this region, readers will benefit from understanding how GM crops have been integrated into many different countries and, in particular, the effects of the take-up of GM cropping systems by farmers with different socioeconomic backgrounds.

This book reviews a wide-range of genetically modified (GM) crops, to understand how they are produced, the impacts on the agricultural industry, and the potential for improving food security. The production of GM crops has now become an invaluable asset in the agricultural toolbox. With a significant portion of the world suffering from hunger and poverty, this book examines how food security can be achieved through GM crops. A wide variety of crops are examined, from the earliest developments of GM tomatoes and potatoes, to recent interest in the development of low-cost, high yielding biofuels, such as microalgae. Chapters also discuss the role of GM crops in pest-management and the consequential reduction in the use of insecticides. Overall this book provides an important synthesis of GM crops from their commercial value to the agricultural industry, as well as their potential for improving food security. This book will be of great interest to students and scholars of agricultural engineering, crop science, food biotechology, food security and those interested in food and agriculture and sustainable development more broadly.

This resource covers one of the most contentious and politically charged topics today. The history of agriculture is traced, from ancient practices to the use and impact of modern technology and the advances of scientific agriculture. The book explains the reactions of scientists, farmers, chefs, and medical doctors to the scientific changes in agriculture, which have ranged from support to skepticism, and shows how different governments around the world view the inclusion of GMOs in food. The unbiased approach allows readers to decide for themselves whether GMOs are the answer to world hunger or could negatively impact the health of the world population.

This title will be of use to any non-specialist who needs to well-informed on this hottest of topics. Written in jargon-free language, this guide points readers to the authoritative sources. Business people who need to keep abreast of developments, journalists, farmers, students, or any lay people concerned over the issues involved, will all find it a handy guide to keep on their desks. Chapters cover the science of genetically modified foods technology, sources of business and market information, government and regulatory information worldwide espeically in the USA and the UK, public opnion, lobby groups, and ethical debates. There is also a chapter on how best to use public libraries as information sources. Importaant sites on the Internet are described, along with other, non-electronic methods of accessing the same information. Worked examples are given of how to track down such information as recent patents, the sites of field trials of genetically modified crops, and what research projects the government is supporting.

Environmental Impact of Genetically Modified Crops

Genetically Modified Organisms in Agriculture

Experiences and Prospects

GMOs Decoded

Genetically Modified Foods