

Vegetable Science And Technology In India

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[Technological Interventions in the Processing of Fruits and Vegetables](#) - Rachna Sehrawat 2018-04-17

Technological Interventions in Processing of Fruits and Vegetables presents a wide selection of the latest concepts in the fast-changing field of processing of fruits and vegetables (FAV). It provides key information on many new and different techniques used for processing of fruits and vegetables while also exploring the pros and cons of the various methods. There is an urgent need to explore and investigate waste in the processing of fruits and vegetables and how different processing technologies can be used most effectively. This volume, in short, conveys the key concepts and role of different technology in processing of fruits and vegetables, keeping mind the special processing requirements of fruits and vegetables, waste issues, nutritional value, and consumer concerns. This volume offers a wealth of information on today's technology for fruit and vegetable processing and will be a valuable resource for industry professionals, agricultural/food processing researchers, faculty and upper-level students, and others.

[Advances in Postharvest Technologies of Vegetable Crops](#) - Bijendra Singh 2018-05-24

This book presents a selection of innovative postharvest management practices for vegetables. It covers technologies in harvesting, handling, and storage of vegetables, including strategies for low-temperature storage of vegetables, active and smart packaging of vegetables, edible coatings, application of nanotechnology in postharvest technology of vegetable crops, and more. It considers most of the important areas of vegetable processing while maintaining nutritional quality and addressing safety issues. Fruits and vegetables are important sources of nutrients such as vitamins, minerals, and bioactive compounds, which provide many health benefits. However, due to poor postharvest management—such as non-availability of cold chain management and low-cost processing facilities, large quantities of vegetables perish before they reach the consumer. Furthermore, higher temperatures in some regions also contribute to an increased level of postharvest losses. With chapters written by experts in the postharvest handling of vegetable, this volume addresses these challenges. It is devoted to presenting both new and innovative technologies as well as advancements in traditional technologies.

[Advances in Preservation and Processing Technologies of Fruits and Vegetables](#) - S. Rajarathnam 2011-01-15

The book consists of 19 chapters on different subjects and in different dimensions, with particular emphasis on the post-harvest handling and processing of fruits and vegetables, including mushrooms. Scope for the technology on fruits and vegetables, non-destructive methods to evaluate fresh quality, radiation preservation, chemistry of pectin and pigments and their applications, nutraceutical compounds, membrane processing of liquid fruits, dehydrated and intermediate moisture products, importance of bamboo and mushrooms as food, influence of process conditions on product quality, food additives in product preparation, packaging aspects, microbiological safety concerns, relevant analytical methods, mushroom nutraceuticals and bio-technological interventions for improvement of banana with a final note on conclusions in the last

Advances in Postharvest Technologies of Vegetable Crops - Bijendra Singh 2018-05-24

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Breeding And Protection Of Vegetables - M. S. Rana 2011-01-15

The book has been written in a very simple and easily understandable language. The information given in this book is based on systematically and scientifically designed field and laboratory experiments conducted in various ecological zones. It is believed that this book will serve the scientific society in a variety of ways. Undergraduate and postgraduate students, professors, teachers, scientists and researchers having their interests in different fields of specialization will certainly be benefited. The book covers articles written by well known authorities in respective fields.

The Vegetable Pathosystem - Mohammad Ansar 2019-12-19

Variability in vegetable pathogens is a critical issue, particularly in changing environments, as it presents challenges to accurate diagnoses and proper management. This book focuses on the diverse ecology of phytopathogens, covering the varying disease categories (acute, chronic, and emerging), the mechanisms involved in disease development, pathogen variability, and disease management. The book also discusses the preharvest and postharvest challenges that arise due to these phytopathogens. Key Features: • Provides an overview of phytopathogens that affect vegetables in various environmental conditions • Discusses how to manage vegetables affected by specific pathogens • Offers eco-friendly approaches to prevent postharvest diseases • Presents a comprehensive guide to identifying and addressing numerous diseases for individuals in the fields of horticulture

Modern Technology in Vegetable Production - Pranab Hazra 2011-08-03

The challenges of increasing vegetable productivity against unfortunate diminishing soil fertility natural resources particularly land and water and rising cost of vegetable production call for greater technology support. This book deals with classification of different vegetable crops basic principles of different crop management practices viz, seedling management water management plant nutrient management pollination management IPM techniques integrated disease management biological management of diseases and weed management and modern production technologies of 29 important vegetable crops. Unique feature of this book lay on 190 coloured photographs on four important aspects of vegetable production viz, nursery management physiological disorder disease and insect pests of different vegetables crops. This type book dealing with modern vegetable production technology with extensive photographic documentation is the new addition in the teaching and demonstrative field of vegetable science. This book will be extremely beneficial not only for the students but also for the faculty members of the colleges and University technical personnel of the commercial vegetable farms planners extension and development officers and even nutritionists and dieticians will also get benefit from this book."

Postharvest Handling and Diseases of Horticultural Produce - Dinesh Singh 2021-09-15

Postharvest Handling and Diseases of Horticultural Produce describes all the postharvest techniques, handling, pre-cooling, postharvest treatment, edible coating and storage of the horticultural produce available to handle perishable horticultural food commodities, covering the areas of horticulture, agricultural process engineering, postharvest technology, plant pathology and microbiology. Postharvest diseases of major fruits and vegetables, with their causal agents, are described. The integrative strategies for management of postharvest diseases include effectively inhibiting the growth of pathogens, enhancing the resistance of hosts

and improving environmental conditions, with results that are favourable to the host and unfavourable to the pathogen growth including biotechnological approaches. Adopting a thematic style, chapters are organized by type of treatment, with sections devoted to postharvest risk factors and their amelioration. The chapters are written by experts in the fields of plant pathology, horticulture, food science etc., and core insights into identifying and utilizing appropriate postharvest options for minimizing postharvest losses and enhancing benefits to end-users are provided. Features Presents the most recent developments in the field of postharvest handling technologies and diseases in a single volume Includes postharvest diseases of cut flowers, fruits, vegetables and tuber crops. Appropriate for students, researchers and professionals Written by experts and can be used as a reference resource

Innovative Packaging of Fruits and Vegetables: Strategies for Safety and Quality Maintenance - Mohammed Wasim Siddiqui
2018-05-23

This volume addresses the challenges of the short shelf life of fruits and vegetables. Innovative packaging technologies are the most promising strategies for overcoming these limitations. This book provides a host of sustainable packaging solutions that deliver protection, branding, consumer attractiveness, and speed to market in a competitive retail environment. Key features of the book: • Provides an informative overview of fruit and vegetable requirements and available packaging materials and systems • Provides an understanding of the fundamentals of the impact of packaging on the quality and safety of fruits and vegetables • Covers the fundamental aspects of packaging requirements, including mathematical modeling and mechanical and engineering properties of packaging materials • Presents an in-depth discussion of innovative packaging technologies, such as MA/CA packaging, active packaging, intelligent packaging, and eco-friendly materials applied to fruit and vegetables • Looks at packaging design for better environmental and economic performance

Modern Vegetable Varieties And Production Technology - D.K.Singh 2018-09-26

The book entitled "Modern Vegetable Varieties and Production Technology" is compilation of almost all the varieties developed from various SAUs, research centres and private seed companies, their characteristic features and the production technology involved in raising the vegetable crops. The book also contains few introductory chapters regarding the different vegetables grown in India, their area and production, nutritional aspect of vegetables and research done in the field of vegetable till date. The book consist of three introductory chapters viz., (1) vegetable crops, (2) nutritional importance of vegetable and (3) vegetable research in India -a brief background the other part of the book consists of nine chapters viz., (1) solanaceous vegetables (2) okra, (3) cole crops (4) cucurbitaceous vegetables (5) peas and beans (6) bulb crops (7) root crops (8) leafy vegetables and (9) asparagus (10) Hi-Tech vegetable production technology. Each of these chapters includes the vegetable varieties and production technology of respective crops. This would be helpful to the teachers, scientists, students, extension workers and farmers of this country

Vegetable Crop Science - M. K. Rana 2017-10-02

This book has been prepared to provide every production aspect of important vegetables along with information regarding origin and distribution, composition and uses, botany, varieties, climatic and soil requirement, cultivation practices, harvesting, post-harvest management, insect-pests and diseases along with their control measures. Its users would find this book very practical for raising vegetable crops profitably.

Agricultural Impacts of Climate Change [Volume 1] - Rohitashw Kumar 2019-11-25

Conservation agriculture is a sustainable production model that not only optimizes crop yields, but also reaps economic and environmental benefits as well. The adoption of successful conservation agriculture methods has resulted in energy savings, higher organic matter content and biotic activity in soil, increased crop-water availability and thus resilience to drought, improved recharge of aquifers, less erosion, and reduced impacts from the weather associated with climate change in general. Agricultural Impacts of Climate Change examines several important aspects of crop production, such as climate change, soil management, farm machinery, and different methods for sustainable conservation agriculture. It presents spatial distribution of a daily, monthly and annual precipitation concentration indices, Diffuse Reflectance Fourier Transform Infrared Spectroscopy for analyzing the organic matter in soil, and adaptation strategies for climate-related plant disease scenarios. It also discusses solar energy-based greenhouse

modeling, precision farming using remote sensing and GIS, and various types of machinery used for conservation agriculture. Features: Examines the effects of climate change on agriculture and the related strategies for mitigation through practical, real-world examples Explores innovative on-farm technology options to increase system efficiency resulting in improved water usage Presents examples of precision farming using climate-resilient technologies

Biotic Stress Management in Tomato - Shashank Shekhar Solankey
2021-11-11

This valuable volume highlights biotechnological tools and their utilization for biotic stress management in the tomato plant, one of the world's most important vegetable crops consumed by us in our daily diet and which is vulnerable to over 200 diseases as well as the impact of global climate change. The chapters cover the major diseases of tomato along with practical biotic stress management strategies through biotechnological and molecular approaches. The focus is on molecular tools that can be used to prevent or mitigate damage from such diseases as bacterial wilt, bacterial canker, damping off seedlings, late blight, early blight, fusarium wilt, septorial leaf spot, cercospora leaf spot, verticillium wilt, tomato leaf curl virus, tobacco mosaic virus, tomato spotted wilt virus, root knot nematode, fruit borer, and sucking pests. Gene stacking/pyramiding and postharvest management strategies are also systematically discussed. This book provides an up-to-date and comprehensive review that will be a greatly useful resource, containing basic facts and information on the new and recent discoveries for biotic stresses management of tomatoes.

Vegetable Science And Technology - Pranab Hazra 2019-07-05

This book has been designed to cater the needs of undergraduates and postgraduates of State and Central Agricultural Universities studying vegetable science and horticultural science. This book has been framed to provide the principles for environmental and growth factors, seedling and graft production, nutrient and water management, organic and protected farming, crop protection, post-harvest management and marketing of vegetable crops. Every production aspect of 42 major and minor vegetable crops grown in the tropical and subtropical regions along with information regarding origin and taxonomy, importance and uses, botany, nutritional and medicinal values, plant protection measures and post-harvest management have been provided. The author's long and rich experience acquired through teaching and research on different aspects of vegetable science in the State Agricultural University was put to structure this book.

Handbook of Cucurbits - Mohammad Pessaraki 2016-02-22

The Handbook of Cucurbits: Growth, Cultural Practices, and Physiology contains information on cultural practices, nutrition, and physiological processes of cucurbits under both normal and stressful conditions. It presents the history and importance of cucurbit crop production as well as exhaustive information on growth responses of cucurbits to var *Innovations in Agriculture for a Self-Reliant India* - P.K. Ghosh
2021-11-30

The book brings out an encyclopaedic picture of the potential areas of transformative Indian agriculture through innovations in science, technology, institutional and policy affairs directed in building a self-reliant India (Atmanirbhar Bharat). The book has addressed the challenges to make India free from hunger, poverty and undernutrition, and suggested interventions with focus on all-inclusiveness and sustainability, peace and prosperity, and resilience to climate and other volatilities. Most of these propositions are analogous to the Sustainable Development Goals - Agenda 2030, which India has committed to achieve. The book specially covers critical needs for development on different fragile ecosystems such as coastal, desert, hill, ravine and other marginal ecosystems. The book will act as very useful guidance for the policy makers, and development communities, and a reference document to the academicians as well. Note: T&F does not sell or distribute the hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka. This title is co-published with NIPA.

Handbook of Vegetables and Vegetable Processing - Muhammad Siddiq
2018-02-23

Handbook of Vegetables and Vegetable Processing, Second Edition is the most comprehensive guide on vegetable technology for processors, producers, and users of vegetables in food manufacturing. This complete handbook contains 42 chapters across two volumes, contributed by field experts from across the world. It provides contemporary information that brings together current knowledge and practices in the value-chain of vegetables from production through consumption. The book is unique in the sense that it includes coverage of production and postharvest

technologies, innovative processing technologies, packaging, and quality management. Handbook of Vegetables and Vegetable Processing, Second Edition covers recent developments in the areas of vegetable breeding and production, postharvest physiology and storage, packaging and shelf life extension, and traditional and novel processing technologies (high-pressure processing, pulse-electric field, membrane separation, and ohmic heating). It also offers in-depth coverage of processing, packaging, and the nutritional quality of vegetables as well as information on a broader spectrum of vegetable production and processing science and technology. Coverage includes biology and classification, physiology, biochemistry, flavor and sensory properties, microbial safety and HACCP principles, nutrient and bioactive properties. In-depth descriptions of key processes including, minimal processing, freezing, pasteurization and aseptic processing, fermentation, drying, packaging, and application of new technologies. Entire chapters devoted to important aspects of over 20 major commercial vegetables including avocado, table olives, and textured vegetable proteins. This important book will appeal to anyone studying or involved in food technology, food science, food packaging, applied nutrition, biosystems and agricultural engineering, biotechnology, horticulture, food biochemistry, plant biology, and postharvest physiology.

Nanobiotechnology Applications in Plant Protection - Kamel A. Abd-El Salam 2019-10-04

Nanobiotechnology Applications in Plant Protection: Volume 2 continues the important and timely discussion of nanotechnology applications in plant protection and pathology, filling a gap in the literature for nano applications in crop protection. Nanobiopesticides and nanobioformulations are examined in detail and presented as powerful alternatives for eco-friendly management of plant pathogens and nematodes. Leading scholars discuss the applications of nanobiomaterials as antimicrobials, plant growth enhancers and plant nutrition management, as well as nanodiagnostic tools in phytopathology and magnetic and supramagnetic nanostructure applications for plant protection. This second volume includes exciting new content on the roles of biologically synthesized nanoparticles in seed germination and zinc-based nanostructures in protecting against toxigenic fungi. Also included is new research in phytotoxicity, nano-scale fertilizers and nanomaterial applications in nematology and discussions on Botrytis grey mold and nanobiocontrol. This book also explores the potential effects on the environment, ecosystems and consumers and addresses the implications of intellectual property for nanobiopesticides. Further discussed are nanotoxicity effects on the plant ecosystem and nano-applications for the detection, degradation and removal of pesticides.

Fresh-Cut Fruits and Vegetables - Sunil Pareek 2016-08-05

Because they meet the needs of today's consumers, fresh-cut plant products are currently one of the hottest commodities in the food market of industrialized countries. However, fresh-cut produce deteriorates faster than the correspondent intact produce. The main purpose of *Fresh-Cut Fruits and Vegetables: Technology, Physiology, and Safety* is to provide helpful guidelines to the industry for minimizing deterioration, keeping the overall quality, and lengthening the shelf life. It provides an integrated and interdisciplinary approach for accomplishing the challenges, where raw materials, handling, minimal processing, packaging, commercial distribution, and retail sale must be well managed. It covers technology, physiology, quality, and safety of fresh-cut fruits and vegetables. In this book, the chapters follow a logical sequence analyzing most of the important factors affecting the main characteristics of fresh-cut horticultural products. The most relevant technologies to prevent deterioration and improve final overall quality of fresh-cut commodities are described in detail. This book covers the basics of the subject from quality preservation, nutritional losses, physiology, and safety to industry-oriented advancements in sanitization, coatings, and packaging. It examines such novel preservation technologies as edible coatings, antimicrobial coatings, natural antimicrobials, gum arabic coatings, and pulsed light treatments. Minimal processing design and industrial equipment are also reviewed. With its international team of contributors, this book will be an essential reference work both for professionals involved in the postharvest handling of fresh-cut and minimally processed fruits and vegetables and for academic and researchers working in the area.

Emerging Postharvest Treatment of Fruits and Vegetables - Kalyan Barman 2018-09-19

With the increasing need and demand for fresh fruits and vegetables, the field of postharvest science is continuously evolving. Endeavors are being made by scientists involved in postharvest research for maintenance of

the quality and safety of fresh horticultural produce to enhance the postharvest life and to extend the availability of the produce in both time and space. This volume, *Emerging Postharvest Treatment of Fruits and Vegetables*, addresses the demand for the development and application of effective technologies for preservation of perishable food products, particularly fresh fruits and vegetables. It provides an abundance of up-to-date information about postharvest treatments. The chapters discuss a number of innovative technologies to prolong and enhance postharvest fruits and vegetables. This book will be valuable for those concerned with horticulture and postharvest technology. It provides essential information for students, teachers, professors, scientists, and entrepreneurs engaged in fresh horticultural produce handling related to this field.

Genomic Designing for Abiotic Stress Resistant Vegetable Crops - Chittaranjan Kole 2022-08-21

This book presents deliberations on molecular and genomic mechanisms underlying the interactions of crop plants to the abiotic stresses caused by heat, cold, drought, flooding, submergence, salinity, acidity, etc., important to develop resistant crop varieties. Knowledge on the advanced genetic and genomic crop improvement strategies including molecular breeding, transgenics, genomic-assisted breeding, and the recently emerging genome editing for developing resistant varieties in vegetable crops is imperative for addressing FHNEE (food, health, nutrition, energy, and environment) security. Whole genome sequencing of these crops followed by genotyping-by-sequencing has provided precise information regarding the genes conferring resistance useful for gene discovery, allele mining, and shuttle breeding which in turn opened up the scope for 'designing' crop genomes with resistance to abiotic stresses. The nine chapters each dedicated to a vegetable crop or crop group in this volume elucidate on different types of abiotic stresses and their effects on and interaction with the crop; enumerate on the available genetic diversity with regard to abiotic stress resistance among available cultivars; illuminate on the potential gene pools for utilization in interspecific gene transfer; present brief on classical genetics of stress resistance and traditional breeding for transferring them to their cultivated counterparts; depict the success stories of genetic engineering for developing abiotic stress-resistant crop varieties; discuss on molecular mapping of genes and QTLs underlying stress resistance and their marker-assisted introgression into elite varieties; enunciate on different genomics-aided techniques including genomic selection, allele mining, gene discovery, and gene pyramiding for developing adaptive crop varieties with higher quantity and quality of yields, and also elaborate some case studies on genome editing focusing on specific genes for generating abiotic stress-resistant crops

Fifty Years of Indian Agriculture - Ali Mohammad 2007

Contributed papers presented at the conference organized by Dept. of Geography, Aligarh Muslim University.

Phytochemicals in Vegetables: A Valuable Source of Bioactive Compounds - Spyridon A. Petropoulos 2018-11-15

Phytochemical compounds are secondary metabolites that plants usually synthesize for their own protection from pests and diseases. Phytochemical biosynthesis is also triggered under specific environmental conditions. They cannot be classified as essential nutrients since they are not required at specific amounts for life sustenance. *Phytochemicals in Vegetables: A Valuable Source of Bioactive Compounds* presents information about the phytochemical (common and scarce) content of several cultivated vegetables, as well as their health and therapeutic effects based on in vitro, in vivo, animal and clinical studies. Chapters also cover recent research findings about their mode of action, bioavailability, interactions with other biological matrices and pharmacokinetics. Moreover, the book gives special attention to the factors that may alter and modulate bioactive compound content, including both cultivation practices and post-harvest treatments that aim towards the production of high quality and healthy foods. Researchers, public health workers, consumers and members of the food industry will find this book to be a useful reference on the variety of phytochemicals present in vegetables.

Vegetable Science And Technology In India - Vishnu Swarap 2006-01-01

Advances in Research on Vegetable Production Under a Changing Climate Vol. 1 - Shashank Shekhar Solankey 2021-04-09

A considerable change in climate at a global level will impact the vegetable cultivation and agriculture as a whole; subsequently affecting the world's food supply. Climate change per se is not necessarily

harmful; the problems arise from extreme events that are difficult to predict (erratic rainfall patterns and unpredictable high and low temperatures), and consequently reduce crop productivity. Vegetables are in general more succulent (have 90% water) and are more sensitive to climatic vagaries. Sudden changes in temperature coupled with irregular precipitation at any phase of crop growth can affect the normal growth, flowering, pollination, fruit setting, fruit development and fruit ripening can decrease the yield. The irregular precipitation can also affect the soil salinity and is a major challenge in many vegetable growing areas. To mitigate the harmful impact of climatic change there is a urgent need to develop adequate adaptation strategies for adverse effect of climate change and the preference should be given on development of heat, cold, drought, flood and salinity stress tolerant genotypes along with climate proofing through conventional and non-conventional breeding techniques. Available evidence shows that there is a high probability of increase in the frequency and intensity of climate related natural hazards due to climate change and hence increases the potential threat due to climate change related natural disasters in the world. This book (Volume- I) will be basically useful for the researchers and postgraduate students with current challenges and mitigation strategies for increasing vegetable production under a changing climate.

Vegetable Crops at a Glance - S.K. Tyagi 2018-03-01

This book is a compendium which dealing with all aspects and facts of vegetable crops which will meet the requirements of all those preparing for JRF, SRF, NET, Ph.D., ARS, and other competitive examinations. This book encompasses all the utmost important features required to get through NET conducted by ASRB, New Delhi. The book incorporates the latest data and facts, which are frequently asked in various competitive exams. Information on recent advances in crop improvement, crop health management and crop production gives a cutting edge to this publication. Narration and presentation of different topics is simple and easily understandable. Specimen multiple choice questions are there with their answers. This would immensely help the aspirants of different, competitive examinations.

Science and Technology for Sustainable Development - Ray 2006-05-09

This Book aims at strengthening the scientific basis for sustainable development. Scientists are improving their understanding about Nature. Technologists are harnessing the potential and resources for economic growth. Scientists, through increased research, can provide efficient techniques for supporting the prudent management of the environment. The uses of remote sensing techniques, efficient materials, application of polymer technology, alternative energy forms, etc., are other topics of discussions included in the book.

Advances in Plant Nitrogen Metabolism - Peerzada Yasir Yousuf 2022-12-19

Advances in Plant Nitrogen Metabolism is a thoughtful, provocative, and up-to-date volume that presents important physiological, biochemical, and molecular perspectives of the nitrogen metabolism in plants and regulatory networks underlying it. The book is an attempt to team up with global leading research experts working in the field of plant nitrogen metabolism to compile an up-to-date and wide-ranging volume. The main purpose of this book is to present information on the most recent developments including the different modern approaches and methodologies that are being currently employed in the field of plant nitrogen metabolism. We trust that this comprehensive volume will familiarize readers with the detailed mechanisms of nitrogen metabolism and its regulation and the current trends in this field of study. The book offers comprehensive coverage of the most essential topics, including: Role of nitrogen and its assimilation in plants Recycling and remobilization of nitrogen during senescence Role of phytohormones in nitrogen metabolism Biological nitrogen fixation Nitrogen biofertilizers: role in sustainable agriculture Effect of stress on plant nitrogen metabolism Reactive nitrogen species (RNS) in plants Nitrogen toxicity in plants, symptoms, and safeguards Nitrogen metabolism enzymes: structure, role, and regulation Regulatory RNAs and their role in nitrogen metabolism of diazotrophs As a pivotal contribution to the field, this volume is an invaluable and up-to-date foundation for plant physiologists, plant biochemists, geneticists, molecular biologists, agronomists, environmental researchers, and students of plant science. The book can also be used for the coursework of research and master's students.

SEAVEG 2012: High Value Vegetables in Southeast Asia: Production, Supply and Demand - R. Holmer 2013-01-01

Handbook of Vegetable Science and Technology - D. K. Salunkhe 1998-03-19

"Furnishes exhaustive, single-source coverage of the production and postharvest technology of more than 70 major and minor vegetables grown in tropical, subtropical, and temperate regions throughout the world. Provides comparative data for each vegetable presented. "

Integrated Nutrient Supply Management System - N.P. Singh (ed.) 2002

Vegetable Crops - T. R. Gopalakrishnan 2007

With reference to India.

Postharvest Biology and Technology of Fruits, Vegetables, and Flowers - Gopinadhan Paliyath 2009-03-16

An increased understanding of the developmental physiology, biochemistry, and molecular biology during early growth, maturation, ripening, and postharvest conditions has improved technologies to maintain the shelf life and quality of fruits, vegetables, and flowers. Postharvest Biology and Technology of Fruits, Vegetables, and Flowers provides a comprehensive introduction to this subject, offering a firm grounding in the basic science and branching out into the technology and practical applications. An authoritative resource on the science and technology of the postharvest sector, this book surveys the body of knowledge with an emphasis on the recent advances in the field.

Plant Stress - Swarnendu Roy 2022

This book presents an inclusive approach to deal with plant stresses in light of recent technological advances. As we have entered into a new decade, researchers and scientists should review and evaluate the recent findings in the field of plant stress management and visualize what we need to focus upon in the near future to increase crop yield. Above all, global climate changes present the greatest challenges of all time for plant scientists. In this context, the book highlights the recent findings and future perspectives in crop improvement to the faculties, scientists, research scholars, and postgraduate students. Major features of the book include an inclusive approach in understanding the mechanism of stress tolerance; recent advances and innovations in the field of allied disciplines like microbiology, molecular biology, biotechnology, plant breeding, nanobiotechnology, etc., for improving plant stress tolerance; and illustrative sketches to convey the mechanism and strategies of stress alleviation.

Handbook of Vegetable Science and Technology - D. K. Salunkhe 1998-03-19

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Eco-Friendly Technology for Postharvest Produce Quality - Mohammed Wasim Siddiqui 2016-04-12

Eco-Friendly Technology for Postharvest Produce Quality presents the scope of emerging eco-friendly technologies to maintain the postharvest quality of fresh produce in terms of safety and nutrition. The book covers an analysis of the alternative and traditional methodologies pointing out the significant advantage and limitations of each technique. It provides a standard reference work for the fresh produce industry in postharvest management to extend shelf life by ensuring safety first and then nutritional or sensory quality retention. Fruits and vegetables are a huge portion of the food supply chain and are depended on globally for good health and nutrition. The supply of good food, however, greatly depends on good postharvest handling practices. Although substantial research has been carried out to preserve the quality of fresh horticultural produce, further research—especially on safety—is still required. This book provides foundational insights into current practices yielding best results for produce handling. Includes appropriate approaches, technologies, and control parameters necessary to achieve shelf-life extension without compromising produce quality Presents successful food safety methods between the time produce is harvested to consumption Includes the latest information on preservation technologies using novel chemical methods, active packaging, and monitoring the effect of environmental stresses on quality and shelf life of agricultural produce

Genetic Improvement of Vegetable Crops - G. Kalloo 2012-12-02

Genetic improvement has played a vital role in enhancing the yield potential of vegetable crops. There are numerous vegetable crops grown worldwide and variable degrees of research on genetics, breeding and biotechnology have been conducted on these crops. This book brings together the results of such research on crops grouped as alliums,

crucifers, cucurbits, leaf crops, tropical underground and miscellaneous. Written by eminent specialists, each chapter concentrates on one crop and covers cytology, genetics, breeding objectives, germplasm resources, reproductive biology, selection breeding methods, heterosis and hybrid seed production, quality and processing attributes and technology. This unique collection will be of great value to students, scientists and vegetable breeders as it provides a reference guide on genetics, breeding and biotechnology of a wide range of vegetable crops.

Vegetable Crop Science - M. K. Rana 2017-10-02

This book has been prepared to provide every production aspect of important vegetables along with information regarding origin and distribution, composition and uses, botany, varieties, climatic and soil requirement, cultivation practices, harvesting, post-harvest management, insect-pests and diseases along with their control measures. Its users would find this book very practical for raising vegetable crops profitably.

Geminivirus: Detection, Diagnosis and Management - R.K. Gaur 2022-06-10

Geminivirus: Detection, Diagnosis and Management focuses on the latest techniques for managing diseases caused by these circular, single-stranded (ss) DNA genomes. The most significant impact of plant diseases in host populations is often caused by emerging diseases, whose incidence in a plant host is increasing as a result of long-term changes in their underlying epidemiology. Genetic changes in pathogen and host populations, as well as changes in host ecology and environment, are major factors contributing to disease emergence. Understanding plant virus evolution is crucial for modeling the within-host and between-host dynamics and genetics of virus populations. The book presents a comprehensive review of how these viruses develop, including contributing factors such as population bottlenecks during cell-to-cell movement, systemic colonization, or between-host transmission by different procedures. Presented in five sections—Detection and Diagnosis, Emergence and Diversity, Vector and Transmission,

Virus-Host Interaction, and Disease Management, the book includes host range determinant and virulence factors involved in pathogenesis, virus-vector interactions during acquisition, retention, and transmission and evaluating management strategies to control Geminivirus. The book is an essential reference for students and researchers interested in plant virology, particularly begomoviruses, geminiviruses, and vector transmission biology. Introduces identification and characterization of geminiviruses that infect agricultural crops, their wild relatives, and weed hosts Discusses recombination and reassortment mechanisms influencing viral genetic diversity, virulence, and vector transmission Explores the origin, evolution, and bottlenecks of Geminiviruses Introduces identification and characterization of geminiviruses that infect agricultural crops, their wild relatives, and weed hosts Discusses recombination and reassortment mechanisms influencing viral genetic diversity, virulence, and vector transmission Explores the origin, evolution, and bottlenecks of Geminiviruses

Advances in Plant Physiology - P. C. Trivedi 2013-12-30

In the present scenario, with the increasing pressure posed by a rapidly growing population and diminishing per capita arable land and sources of irrigation, the role of plant physiologists in increasing agricultural and horticultural production by economically viable means, is significant. The present book incorporates articles covering latest information on the varied aspects of plant physiology, like diagnosis and management of physiological disorders in fruit production, physiology of vegetable crops, breeding crops for dryland conditions, effect of sulphur dioxide on growth, photosynthesis, antioxidant enzyme activities and so on. Topics such as abiotic stress, macronutrient stress and stress caused by pollutants also form part of the book. Articles on the effect of herbicides, growth hormones, photoquality on germination and physiology of rice and groundnut provide useful information for improving crop yield. This book would serve as a useful reference for teachers, scientists and planners in the fields of Botany, Plant Physiology, Agriculture, Forestry and related fields