Science And Technology Of Groundnut Biology Production Processing Utilization 1st Edition

Peanut, an amphidiploid, is an important food and oil crop and has an interesting evolutionary history. This book provides a glimpse of the advances in genetic resources and genomics research of peanut made during the last decade. It contains an overview of germplasm, advances in genetic and genomic resources, genetic and trait mapping, proteomic and transcriptomic analyses, functional and comparative genomics studies, and molecular breeding applications. This book should prove useful to students, teachers, and young researchers as a ready reference to the latest information on peanut genetics and genomics.

By the year 2050, the world's population is expected to reach nine billion. To feed and sustain this projected population, world food production must increase by at least 50 percent on much of the same land that we farm today. To meet this staggering challenge, scientists must develop the technology required to achieve an "evergreen" revolution-one

Reviewing the relevant scientific and technical literature, this work summarizes the current state-of-the-art knowledge related to gene flow and introgression (the permanent incorporation of genetic information from one set of differentiated populations into another) between genetically modified crops and their wild relatives. They analyze the biological framework for protecting the genetic integrity of indigenous wild relatives of crops in centers of crop origin and diversity, focusing on the issues of emission, dispersal, and deposition of pollen and/or seed; the likelihood and extent of gene flow from crops to wild relatives; and stabilization and the spread of traits in wild species. The material is organized into crop chapters, each of which covers general biological information of the crop; the most important crop wild relatives together with information about their ploidy levels, diverse genomes, centers of origin, and geographic distribution; the crop's potential for hybridization with its wild relatives; pollen flow studies related to pollen dispersal distances and hybridization rates; the current state of the genetic modification technology regarding that crop; and research gaps. The crop chapters discuss banana and plantain; barley; canola and oilseed rape; cassava, manioc, and yucca; chickpea; common bean; cotton; cowpea; finger millet; maize and corn; oat; peanut and groundnut; pearl millet; pigeonpea; potato; rice; sorghum; soybean; sweet potato, batata, and camote; and wheat and bread wheat.

Mycotoxins—Advances in Research and Application: 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Mycotoxins. The editors have built Mycotoxins—Advances in Research and Application: 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Mycotoxins in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Mycotoxins—Advances in Research and Application: 2012 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at

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Plant Breeding Reviews, Volume 22 presents state-of-the-art reviews on plant genetics and the breeding of all types of crops by both traditional means and molecular methods. The emphasis of the series is on methodology, a practical understanding of crop genetics, and applications to major crops.

Groundnuts (peanuts) are of great economic importance internationally. This book provides thorough coverage of all aspects of the crop, each chapter being written by experts in particular areas. The book will be invaluable to all those involved with the group, particularly agronomists, plant scientists and food scientists.

World health authorities recommend people maximize their protein intake through vegetable sources (such as pulses), and reduce protein intake from animal sources. Increasing vegetable protein intake has been shown to be positively associated with the reduction of both cardiovascular-disease-related mortality and all-cause mortality. Pulse consumption has been shown to improve satiety and metabolism of glucose and lipids, due to their high protein and fiber content, which makes their consumption ideal for preventing and managing obesity. In recent years, there has been increasing demand for pulses and pulse-based products in developed countries. Several large-scale collaborative research projects on pulse products have been initiated by government agencies. Similarly, established multinational food companies have developed pulse product units. Pulses: Processing and Product Development fulfills the need for a comprehensive book on processing and products of pulses. The book addresses a specific pulse with each chapter to meet a wide range of audiences from undergraduate students to consumers.

The Question Bank is Seed Science and Technology is not only enrich the knowledge, but also helps in successful winner of the tests. Keeping the gap in the publication of Question Bank in Seed Science and Technology, a sincere attempt has been made to craft objective type questions. Each part consists of objective types question, like choose the correct answer, fill in the blanks, True or false, match the following, arrange in order, write the wrong answer and differentiate between information an abbreviation, important seed scientists and their contributions and National and International books and journals are also included in this book.

The book reviews recent advances in tropical plant breeding. Each of the twenty-four chapters describes a specific crop, which has been written by scientists working in the field of plant breeding and genetic improvement of that particular species. The book will be a useful reference work for professional plant breeders as well as researchers, teac

Peanut Science and TechnologyScience and Technology of GroundnutBiology, Production, Processing, and UtilizationPeanuts: Processing Technology and Product DevelopmentAcademic Press

The need for agricultural research resources in the developing world cannot be underestimated, but the availability of such resources is often poor due to lack of funding and investment. In order for Africa and other such developing countries to achieve productivity in agriculture - vital to food security, poverty reduction and sustainable management of natural resources - investment and policy development needs to be assessed. This book, a joint effort from IFPRI, ILRI and the Kellogg Foundation, explores the importance of impact assessment studies in Africa, and assembles important evidence to pave the way for further, much needed investment in agricultural research all over the developing world.

Chock-full of photos, advertisements, and peanut recipes from as early as 1847, this entertaining and enlightening volume is a testament to the culinary potential and lasting popularity of the goober pea. 24 photos.

"Examines climate-soil-plant interrelationships governing the nutritional and growth aspects of cereal, legume, and pasture crops--providing basic and applied information to improve the management and potential yield of major temperate and tropical field crop. Second Edition furnishes a new chapter on the management of degraded soils, and improved organization of chapter sequence, and more than 325 tables and drawings--over 90 new to this edition."

The Bambara groundnut (BGN) or Vigna subterranea is an extremely hardy grain legume. As it produces reasonable yields even under conditions of drought and low soil fertility, it is also a climate-smart crop. Previously underutilized, BGN is the subject of growing interest among researchers and consumers for its balanced nutritional profile. Indigenous consumers of BGN report medicinal benefits from the plant; however, such knowledge is at risk of being lost with the urbanization and changing lifestyles of younger generations. To date, there is no comprehensive resource on the Bambara groundnut, despite market demand for plant proteins around the globe. Authored by scientists who have researched and developed patents using BGN, Bambara Groundnut: Utilization and Future Prospects aims to fill this gap. The text provides in-depth coverage on breeding, food and feed utilization, medicinal benefits and future research prospects. Drawing on both indigenous knowledge and cutting-edge research, Bambara Groundnut is the first book to fully explore the potential of this remarkable crop.

This handbook of nutrition and diet provides information on food nutrients and their functions; food safety and distribution; food composition, consumption and utilization; adequacy of diet; and the nutritional management of diseases and disorders. It also discusses the effects of nutrition and diet on diseases of the bones, teeth, hair, kidneys, l

Comprehensive Foodomics offers a definitive collection of over 150 articles that provide researchers with innovative answers to crucial questions relating to food quality, safety and its vital and complex links to our health. Topics covered include transcriptomics, proteomics, metabolomics, genomics, green foodomics, epigenetics and noncoding RNA, food safety, food bioactivity and health, food quality and traceability, data treatment and systems biology. Logically structured into 10 focused sections, each article is authored by world leading scientists who cover the whole breadth of Omics and related technologies, including the latest advances and applications. By bringing all this information together in an easily navigable reference, food scientists and nutritionists in both academia and industry will find it the perfect, modern day compendium for frequent reference. List of sections and Section Editors: Genomics - Olivia McAuliffe, Dept of Food Biosciences, Moorepark, Fermoy, Co. Cork, Ireland Epigenetics & Noncoding RNA - Juan Cui, Department of Computer Science & Engineering, University of Nebraska-Lincoln, Lincoln, NE Transcriptomics - Robert Henry, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, St Lucia, Australia Proteomics - Jens Brockmeyer, Institute of Biochemistry and Technical Biochemistry, University Stuttgart, Germany Metabolomics - Philippe Schmitt-Kopplin, Research Unit Analytical BioGeoChemistry, Neuherberg, Germany Omics data treatment, System Biology and Foodomics - Carlos Leon Canseco, Visiting Professor, Biomedical Engineering, Universidad Carlos III de Madrid Green Foodomics - Elena Ibanez, Foodomics Lab, CIAL, CSIC, Madrid, Spain Food safety and Foodomics - Djuro Josi?, Professor Medicine (Research) Warren Alpert Medical School, Brown University, Providence, RI, USA & Sandra Kraljevi? Paveli?, University of Rijeka, Department of Biotechnology, Rijeka, Croatia Food Quality, Traceability and Foodomics - Daniel Cozzolino, Centre for Nutrition and Food Sciences,

The University of Queensland, Queensland, Australia Food Bioactivity, Health and Foodomics - Miguel Herrero, Department of Bioactivity and Food Analysis, Foodomics Lab, CIAL, CSIC, Madrid, Spain Brings all relevant foodomics information together in one place, offering readers a ‘one-stop,’ comprehensive resource for access to a wealth of information Includes articles written by academics and practitioners from various fields and regions Provides an ideal resource for students, researchers and professionals who need to find relevant information quickly and easily Includes content from high quality authors from across the globe

"Arachis hypogaea L., commonly known as the groundnut or peanut, is a versatile legume that is grown primarily for its edible seeds and is consumed worldwide. Groundnut requires a warm growing season with well distributed rainfall, and India and China are responsible for providing just over half of the world's supply. However, in most African countries, groundnut is grown on marginal soil under low input and requires the attention of researchers and policy makers. Accordingly, the first two chapters of this monograph detail the cultivation, breeding, and nutritional value of groundnut. Chapter 3 deals with the management of peanut diseases, focusing specifically on the use of azoxystrobin plus benzovindiflupyr as a fungicide for treatment of early leaf spot, peanut pod rot, and other issues. Chapter 4 details how stored peanuts can be protected from fungi and aflatoxins contamination using free and microencapsulated 2(3)-tert-butyl-4 hydroxyanisole (BHA)"--

When one is privileged to participate long enough in a professional capacity, certain trends may be observed in the dynamics of how challenges are met or how problems are solved. Agricultural research is no exception in view of how the plant sciences have moved forward in the past 30 years. For example, the once grand but now nearly forgotten art of whole plant physiology has given way almost completely to the more sophisticated realm of molecular biology. What once was the American Society of Plant Physiologists’ is now the American Society of Plant Molecular Biology; a democratic decision to indemnify efforts to go beyond the limits of the classical science and actually begin to understand the underlying biological basis for genetic regulation of metabolic mechanisms in plants. Yet, as new technologies open windows of light on the inner workings of biological processes, one might reminisce with faint nostalgia on days long past when the artisans of plant physiology, biochemistry, analytical chemistry and other scientific disciplines ebbed and waned in prominence. No intentional reference is made here regarding Darwinism; the plant sciences always have been extremely competitive. Technology is pivotal. Those who develop and/or implement innovative concepts typically are regarded as leaders in their respective fields. Each positive incremental step helps bring recognition and the impetus to push a scientific discipline forward with timely approaches to address relevant opportunities.

Peanuts: Genetics, Processing, and Utilization (Oilseed Monograph) presents innovations in crop productivity and processing technologies that help ensure global food security and high quality peanut products. The authors cover three central themes, modern breeding methods for development of agronomic varieties in the U.S., China, West Central Africa, and India, enhanced crop protection and quality through information from the peanut genome sequence, and state-of-the-art processing and manufacturing of products in market environments driven by consumer perception, legislation, and governmental policy. Discusses modern breeding methods and

genetically diverse resources for the development of agronomic varieties in the U.S., China, India, and West Central Africa Provides enhanced crop protection and quality through the application of information and genetic tools derived from analysis of the peanut genome sequence Includes state-of-art processing and manufacture of safe, nutritious, and flavorful food products

Objective Seed Science and Technology is prepared based on the ICAR UG syllabus of Seed Science and Technology. This book is the compilation of Frequently Asked Questions (FAQs) in Seed Science and Technology which will be highly useful in writing competitive examinations like ASRB, NET, JRF, SRF, Ph.D entrance, Bank, UPSC, Agricultural, Horticultural and Seed Certification Officers. The 2nd revised Edition comprises two sections namely 1. Seed Science and Technology: Principles and Practices, and 2. Advances in Seed Physiology and Biochemistry. The section 1 consists of eight units such as floral and seed biology, seed production including breeding methods, seed processing, seed quality control, seed storage, seed health, seed industry and marketing and protection of plant varieties including DUS. The section 2 consists of three units namely seed development and maturation, seed dormancy and germination, and seed deterioration. Each chapter includes Multiple Choice Questions (MCQs), fill in the blanks, true or false, match the following, answer the incorrect statement, arrange in order and differentiate between the following. Abbreviations, National and International journals and books, International STLs, Seed Scientists and their inventions and glossaries are also compiled and presented in this book

At the ICAB 2014, researchers from around the world will gather to discuss the latest scientific research, findings and technologies concerning Microbial Genetics and Breeding, Optimization and Control of Biological Processes, Biological Separation and Biological Purification, and Advances in Biotechnology. This conference will provide a platform for academic exchange on the application of biotechnology between domestic and international universities, research institutes, corporate experts and scholars. The participants will focus on the international development and future trends. The event will lay a solid foundation for addressing key technical challenges in various areas of applied biotechnology, providing opportunities to promote the development and expansion of the biotechnology industry.

The Encyclopedia of Food Grains is an in-depth and authoritative reference covering all areas of grain science. Coverage includes everything from the genetics of grains to the commercial, economic and social aspects of this important food source. Also covered are the biology and chemistry of grains, the applied aspects of grain production and the processing of grains into various food and beverage products. With the paramount role of cereals as a global food source, this Encyclopedia is sure to become the standard reference work in the field of science. Also available online via ScienceDirect – featuring extensive browsing, searching, and internal cross-referencing between articles in the work, plus dynamic linking to journal articles and abstract databases, making navigation flexible and easy. For more information, pricing options and availability visit www.info.sciencedirect.com. Written from an international perspective the Encyclopedia concentrates on the food uses of grains, but details are also provided about the wider roles of grains Well organized and accessible, it is the ideal resource for students, researchers and professionals seeking an authoritative overview on any

particular aspect of grain science This second edition has four print volumes which provides over 200 articles on food grains Includes extensive cross-referencing and "Further Reading" lists at the end of each article for deeper exploration into the topic This edition also includes useful items for students and teachers alike, with Topic Highlights, Learning objectives, Exercises for Revision and exercises to explore the topic further

Groundnuts, which are widely consumed in West Africa, are prone to contamination by aflatoxin during production and storage. Although aflatoxin plays a role in many of the important health risks in developing countries, individuals and governments ignore the risks because their health effects are not immediate. In the developed world strong regulations remove contaminated kernels and their products from the food systems. The objective of this paper is to examine production and marketing practices, particularly grading methods, in Ghana’s groundnut value chain to obtain a clear understanding of the sources and levels of aflatoxin contamination in the crop and how such contamination can be sharply reduced.

Peanuts: Processing Technology and Product Development provides an overall review of the latest peanut and peanut-related research development worldwide, including not only peanut production and processing progress, but also peanut-related product (oil, protein) production technologies, and by-products utilization technologies (peptides, polyphenol, polysaccharide, and dietary fiber). The book focuses on technology practicability, and all the technologies introduced, have been partly or fully applied. It is a valuable book and important reference for technicians and R and D persons in the peanut processing industry, and can also be used as a reference book for professional teaching and scientific research in the field of food science and engineering. Provides the latest worldwide research in the field of peanut production and processing, incorporating the author’s research findings on new product development Presents technologies that have already been partly or fully applied in the peanut industry, providing effective guidance for the processing of peanuts and their by-products Includes topics on peanut production, peanut research progress, main peanut components, raw material quality evaluation, processing and utilization of peanut products (oil, protein), and by-products (peptide, polyphenol, polysaccharide, dietary fiber)

This book examines the development of innovative modern methodologies towards augmenting conventional plant breeding, in individual crops, for the production of new crop varieties under the increasingly limiting environmental and cultivation factors to achieve sustainable agricultural production, enhanced food security, in addition to providing raw materials for innovative industrial products and pharmaceuticals. This Volume 4, subtitled Nut and Beverage Crops, focuses on advances in breeding strategies using both traditional and modern approaches for the improvement of individual plantation crops. Included in Part I, eleven important nut species recognized for their economical and nutritional importance including Almond, Argan, Brazil nut, Cashew nut, Chestnut, Hazelnut, Macadamia, Peanut, Pine nut, Pistachio and Walnut. Part II covers two popular beverage species, coffee and tea. This volume is contributed by 53 internationally reputable scientists from 13 countries. Each chapter comprehensively reviews the modern literature on the subject and reflects the authors own experience.

Wild crop relatives are now playing a significant part in the elucidation and improvement of the genomes of their cultivated counterparts. This work includes comprehensive examinations of the status, origin, distribution, morphology, cytology, genetic diversity and available genetic and genomic resources of numerous wild crop relatives, as well as of their evolution and phylogenetic relationship. Further topics include their role as model plants, genetic erosion and conservation efforts, and their domestication for the purposes of bioenergy, phytomedicines, nutraceuticals and phytoremediation. Wild Crop Relatives: Genomic and Breeding Resources comprises 10 volumes on Cereals, Millets and Grasses, Oilseeds, Legume Crops and Forages, Vegetables, Temperate Fruits, Tropical and Subtropical Fruits, Industrial Crops, Plantation and Ornamental Crops, and Forest Trees. It contains 125 chapters written by nearly 400 well-known authors from about 40 countries.

Summarizing landmark research, Volume 4 of this essential seriesfurnishes information on the availability of germplasm resources that breeders can exploit for producing high-yielding oilseed crop varieties. Written by leading international experts, this volume presents the most up-to-date information on employing genetic resources to increas

This book acknowledges the importance of fats and oils and surveys today's state-of-the-art technology. To pursue food technology without knowing the raw material would mean working in a vacuum. This book describes the raw materials predominantly employed and the spectrum of processes used today. It is the updated and revised English version of Nahrungsfette und Ole, originally printed in German. It contains 283 tables, 647+ figures, and over 850 references. "If you can afford only one book on oils and fats, their composition, processing and use, then this should probably be the one!" Presents details on the composition, chemistry, and processes of the major fats and oils used today Includes hundreds of illustrations and tables, making the concepts easier to read and grasp Acknowledges the importance of fats and oils offers details on relevant technologies

Major world oil crops and their products are among the most valuable commodity in today's world trade. Over the past couple of decades, oilseed production has increased to become the most important world sources of vegetable oils, in response to the rising world population and living standard. Recent technological advances made in breeding major world oil crops have led to higher production and improved product quality.This comprehensive volume encompasses recent innovations and practice in the production and use of different oil crops, including Brassica, Sunflower, Safflower, Cottonseed, Castor, Olive, Coconut, Oilpalm, Sesame, Groundnut, and Soybean. The contributors are leading specialists from different countries of the world. Much of the literature available on these crops is not up-to-date; hence this volume is a ready reference for researchers, breeders, biotechnologists, industrialists, and nutritionists. Dr. Surinder Kumpar Gupta, born in 1959, is currently working as Professor/Chief Scientist (Oilseeds) Plant Breeding & Genetics and Nodal officer in the School of Biotechnology, S K University of Agricultural Sciences & Technology. He holds a brilliant academic and service record and has been devoted to research on Oilseed Brassicas for nearly two decades. He obtained his post-graduate degree and PhD from Punjab Agricultural University. He is a recipient of a post-doctoral Fellowship in Plant Biotechnology and has published more than 100 research papers in esteemed national and international journals, mostly on Brassicas. He has already developed five varieties of rapeseed-mustard, and has written two books and edited three volumes on rapeseed & mustard breeding. For his excellent scientific endeavors, he has been conferred the 'Young Scientists Award: 1993-1994' by the State Department of Science & Technology.

Breeding Oilseed Crops for Sustainable Production: Opportunities and Constraints presents key insights into accelerating the breeding of sustainable and superior varieties. The book explores the genetic engineering/biotechnology that has played a vital role in transforming economically important traits from distant/wild species to cultivated varieties, enhancing the quality and quantity of oil and seed yield production. Integrated nutrient management, efficient water management, and forecasting models for pests diseases outbreaks and integrated pest and pest management have also added new dimensions in breeding for sustainable production. With the rise in demand, the scientific community has responded positively by directing a greater amount of research towards sustainable production both for edible and industrial uses. Covering the latest information on various major world oil crops including rapeseed mustard, sunflower, groundnut, sesame, oilpalm, cotton, linseed/flax, castor and olive, this book brings the latest advances together in a single volume for researchers and advanced level students. Describes various methods and systems to achieve sustainable production in all major oilseed crops Addresses breeding, biology and utilization aspects simultaneously including those species whose information is not available elsewhere Includes information on modern biotechnological and molecular techniques and production technologies Relevant for international government, industrial and academic programs in research and development

Peanut Agriculture and Production Technology: Integrated Nutrient Management focuses on agricultural techniques and integrated nutrient management of peanuts (Arachis hypogaea L.). Peanuts are the second most important oil crop of India, occupying 5.7 million hectares, with an average production of 0.8 ton/ha, which is 23.5% of the India’s total oil seed production. Worldwide annual production of shelled peanuts was 42 million metric tons in 2014. It is the world’s 4th most important source of edible oil and the 3rd most important source of vegetable protein. The volume includes basic and advanced information on production, agrotechniques, and integrated nutrient management of Arachis hypogaea L. crop plant. It studies the physiology of the peanut, looking at the proper environmental conditions for optimal growth as well as under various subnormal conditions. It explores the methods of nitrogen application as well as the influence of different sowing dates and population densities to harvest its full yield potential. The book covers methods to achieve balanced nutrition, including using organic manures in groundnut farming to enhance yielding ability. The book will be a rich resource for those in agriculture, horticulture, and allied sciences, particularly for agricultural scientists in plant and crop physiology, agronomy, and soil science. Farm owners and managers of peanut crops and production will also benefit from the information provided in this volume.

Field Crop Arthropod Pests of Economic Importance presents detailed descriptions of the biology and ecology of important arthropod pest of selected global field crops. Standard management options for insect pest control on crops include biological, non-chemical, and chemical approaches. However, because agricultural crops face a wide range of insect pests throughout the year, it can prove difficult to find a simple solution to insect pest control in many, if not most, cropping systems. A whole-farm or integrated pest management approach combines cultural, natural, and chemical controls to maintain insect pest populations below levels that cause economic damage to the crop. This practice requires accurate species identification and thorough knowledge of the biology and ecology of the target organism. Integration and effective use of various control components is often enhanced when the target organism is correctly identified, and its biology and ecology are known. This book provides a key resource toward that identification and understanding. Students and professionals in agronomy, insect detection and survey, and economic entomology will find the book a valuable learning aid and resource tool. Includes insect synonyms, common names, and geographic distribution Provides information on natural enemies Is thoroughly referenced for future research