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2023

SOIL & CROP SCIENCE

CATALOG



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DISEASE, WEED & PEST CONTROL

NEW!

Diagnosing Hemp and Cannabis Crop Diseases

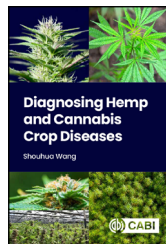
Shouhua Wang

Hemp and cannabis, both belonging to *Cannabis sativa*, have emerged as some of the most valuable crops because of their multiple functionalities—industrial, medicinal, and recreational uses. Like all other crops, they are at risk of diseases and pests. In certain cases, an entire hemp field can fail due to unexpected disease. As a new and highly regulated crop, research on Cannabis crop diseases is scarce and the science of plant diagnostics is not well covered in the literature.

This new book illustrates how to diagnose—in a hemp or cannabis crop—a disease problem and how to manage it effectively. It presents real disease cases encountered during production, and explains methods of diagnosis, both in the field and in the lab, in order to find out the cause(s). The book provides:

- A field and laboratory guide to diagnosing hemp and cannabis diseases and pest problems
- Ready-to-adopt skills, methods and protocols in plant diagnosis, which can be applied to other crops
- Over 300 color photographs accompanied by a wealth of disease information, including field observations, unique symptoms, microscopic details, and molecular data.

336 pp, 7 in x 9 in, 300+ color photos
Cloth, 2021, 978 1 78924 607 0, \$ 105.00



NEW!

Fungicides in Practice

Richard P. Oliver and
Janna L. Beckerman

This book describes the principles underlying decisions about which fungicides to use, when to apply them, and what dose to use. Readers should be able to successfully interpret the labels and promotional material that comes with fungicides as well the regulatory restrictions that govern their use.

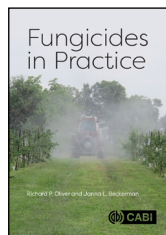
The focus is on broadacre and horticultural crops, such as cereals, vines, soft and pome fruits. Based loosely on the 2014 edition of *Fungicides in Crop Protection*, this book is significantly altered with new content and major revisions to all chapters.

The contents include:

- Fungicide markets, discovery and performance
- Using fungicides to control diseases - seed treatments, foliar treatments, application methods
- Crop-specific aspects of disease control, with case studies
- Biological crop protection, and organic cultivation
- Fungicide resistance
- Legislation and regulation

The audience comprises growers, agronomists and consultants who have decision making responsibility in broadacre and horticultural crop protection. The book will also appeal to researchers in agro chemical companies and in the public sector research who are involved in fungicide discovery and resistance management.

256 pp, 6 in x 9 in
Cloth, Sep 2022, 978 1 78924 690 2, \$ 130.00



NEW!**Microbial Biocontrol Agents***Developing Effective Biopesticides*

Edited by Gerardo Puopolo

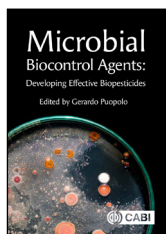
The negative impact of chemical pesticides on human wellbeing and the environment has encouraged the development of eco-friendly alternatives for the management of plant pathogens. However, only a small number of microbial biocontrol agents (mBCAs) have been developed, registered, and used in the management of plant diseases. This book analyzes the deployment of mBCAs for the development of novel microbial biopesticides, considering the main plant-beneficial traits, procedures needed for effective formulations and the processes used for their validation.

To guide the readers through the world of microbial biopesticides, the book starts with a chapter dedicated to the regulations that need to be followed for the development of final products. Readers will understand the importance of formulation and mode of action of mBCAs in developing microbial biopesticides. They will become familiar with key mBCAs such as *Ampelomyces quisqualis*, *Bacillus* spp., *Trichoderma* spp., and *Pseudomonas* spp., understanding the importance of formulation for their application in the field. This book explains the use of mBCAs to control post-harvest diseases and the potential of endophytic microorganisms as next-generation microbial biopesticides.

A final chapter provides a useful workflow for the selection of new mBCAs and describes microbial species including promising mBCAs that might be developed as new microbial biopesticides.

208 pp, 6 in x 9 in

Cloth, Dec 2022, 978 1 78924 918 7, \$ 130.00

**NEW!****Pest Management in Cotton***A Global Perspective*

Edited by Graham A. Matthews and Thomas A. Miller

This book presents a global overview of the background to, and the current state of, crop protection and pest management in cotton crops. The introduction and use of pesticides over the decades significantly increased cotton yields but lead to many adverse environmental impacts. Over time, new and alternative insecticides were developed but overuse has enabled pests to develop significant resistance. The development of genetically modified cotton varieties with toxins derived from *Bacillus thuringiensis* enabled much improved control of lepidopteran larvae, including bollworms, but as the toxins had no effect on sucking pests, farmers had no choice but to continue using insecticides. Also, some of the new cotton varieties developed in recent times have not adapted to different climatic conditions and the quality of cotton fiber declined as a result.

This book shows the need for more research to select cotton varieties with high quality fibers suitable for different cotton growing areas and to develop integrated pest management strategies to minimize the use of pesticides. It also demonstrates the need for an inter-disciplinary approach bringing together plant breeders, entomologists, plant pathologists, agronomists and agricultural engineers to achieve high yields of high quality cotton.

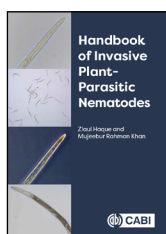
312 pp, 6 in x 9 in

Cloth, Jan 2022, 978 1 80062 021 6, \$ 130.00

**NEW!****Handbook of Invasive Plant-parasitic Nematodes**

Ziaul Haque and Mujeibur Rahman Khan

Plant parasitic nematodes are major pests of agricultural crops and cause huge monetary losses. There is a very high risk of spread from one country to another, with the movement of plants and planting materials e.g. seeds, bulbs, corms, suckers, tubers, rhizomes, rooted plants, nursery stock and cut flowers.



This book contains information on around 100 invasive nematodes and their potential threat in different countries. Each nematode entry includes information on: authentic identification, geographical distribution, risk of introduction, host ranges, symptoms, biology and ecology, planting material liable to carry the nematode(s) and its vector if any, chance of establishment, likely impact, phytosanitary measures, and a detailed account of diagnosis procedures e.g. sampling, isolation/detection and identification with morphological and molecular characterization. It offers a global perspective on invasive nematodes suitable for practitioners, professionals, scientists, researchers, students, and government officials working in plant quarantine and biosecurity.

544 pp, 7 in x 9 in

Cloth, 2021, 978 1 78924 736 7, \$ 250.00

**NEW!****Integrated Nematode Management***State-of-the-Art and Visions for the Future*

Edited by Richard A. Sikora, Johan Desaecker and Leendert Molendijk

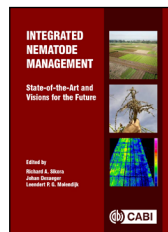
Plant parasitic nematodes are costly burdens of crop production, causing an estimated US\$80 - 118 billion per year in damage to crops. They are associated with nearly every important agricultural crop, and are a significant constraint on global food security. Regulations on the use of chemical pesticides have resulted in growing interest in alternative methods of nematode control. Future changes in climate, cropping systems, food habits, as well as social and environmental factors also affect the options for nematode control.

Taking a systematic crop by crop approach, this book:

- Outlines the economic importance of specific plant parasitic nematode problems on the major food and industrial crops
- Presents the state-of-the-art management strategies that have been developed to reduce specific nematode impacts, and outlines their limitations
- Contains case studies to illustrate impact in the field
- Anticipates future changes in nematode disease pressure that might develop as a result of climate change, and new cropping systems.

488 pp, 6 in x 9 in

Cloth, 2021, 978 1 78924 754 1, \$ 170.00

**Plant Pathology and Plant Diseases**

Anne Marte Tronsmo, Lisa Munk, Annika Djurle, Arne Tronsmo, Jonathan Yuen and David B. Collinge

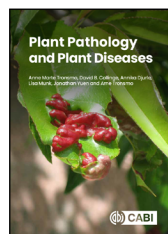
This new textbook provides a comprehensive introduction to all aspect of plant diseases, including pathogens, plant-pathogen interactions, their management, and future perspectives. Plant diseases have limited crop production for as long as humans have engaged in agriculture and horticulture. With climate change, globalization and increasing awareness of the impact of pesticide use on the environment, today there is increased focus on food security as well as the various impacts of productive agriculture.

The approach to plant pathology is to describe the nature of the problem, the mechanisms behind it, the kinds of organisms which cause disease, the fundamental biology of plant-microbe interactions and the approaches used to control and manage disease.

440 pp, 6 in x 9 in

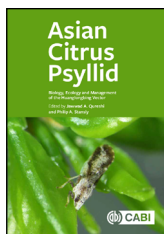
Cloth, 2020, 978 1 78924 318 5, \$ 138.40

Paper, 2020, 978 1 78924 317 8, \$ 69.20



Asian Citrus Psyllid*Biology, Ecology and Management of the Huanglongbing Vector***Edited by Jawwad A. Qureshi and Philip A. Stansly**

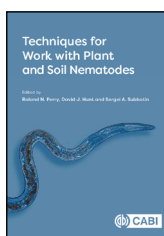
This book, written by a team of experts on the Asian citrus psyllid, gathers together everything currently known about the biology and ecology of this important pest species, examines the transmission and acquisition processes of the pathogen, and looks at current management practices and their effectiveness. The potential for new, innovative management techniques are also described along with the economic implications of managing this rapidly establishing disease.

352 pp, 6 in x 9 in**Cloth, 2020, 978 1 78639 408 8, \$ 138.40****Insect Pest Management****THIRD EDITION****David R. Dent and Richard H. Binks**

This undergraduate and postgraduate textbook covers the key principles, methodologies, approaches and practical examples of insect pest management in: agricultural; post harvest systems; horticulture; insect vectors and medical and veterinary entomology. It features the underpinning monitoring and forecasting of pest outbreaks; yield loss and impact assessments and all of the latest methods of control and management of insects from insecticides: host manipulation; plant resistance; biological control; use of interference; agronomic and precision control methods; as well as socio-economic and research management aspects of developing integrated approaches to pest management. The new edition also reflects the key advances made in the disciplines of molecular biology, biochemistry and genomics related to insects and their management, as well as the importance and role of biodiversity, climate change, precision agriculture, data management and sustainability of production and supply in delivering integrated management solutions.

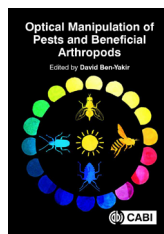
408 pp, 7 in x 9 in**Cloth, 2020, 978 1 78924 105 1, \$ 179.40****Paper, 2020, 978 1 78924 104 4, \$ 71.75****Techniques for Work with Plant and Soil Nematodes****Edited by Roland N. Perry, David Hunt and Sergei Subbotin**

Techniques for Work with Plant and Soil Nematodes is an up-to-date, comprehensive book covering the practicalities of working with and studying soil and plant nematodes. Written by an international team of experts, this book is highly illustrated and provides thorough coverage of methods while allowing for relevant information to be located quickly. It includes the fundamental traditional techniques and new methodologies, covering: sampling; extraction; estimating numbers; handling, fixing, staining, mounting; culturing techniques; figure preparation, measurement and image processing; electron microscopy techniques; behavioral and physiological assays; and cytogenetic, biochemical and molecular biology techniques. This book is an essential resource for anyone involved in plant nematology needing to refer to a readily available methodology standard. It provides a much needed compendium of the spectrum of information needed to work with these microscopic organisms.

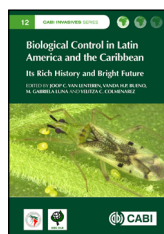
376 pp, 7 in x 9 in, illus**Cloth, 2020, 978 1 78639 175 9, \$ 133.25****Optical Manipulation of Pests and Beneficial Arthropods****Edited by David Ben-Yakir**

Arthropods—whether as pests in crops, vectors of diseases, pollinators, and natural enemies of pest—are of huge economic importance. They affect livestock, human health, and food supplies around the world. This unique book examines and reviews how light and color can be used to enhance pest management in agricultural and medical applications by manipulating the optical responses of arthropods.

Arthropods use optical cues to find food, oviposition sites and to navigate. Light also regulates their diurnal and seasonal activities. Plants use optical cues to attract or deter various species of arthropod. In this book, an international team of experts show how light can be used successfully to attract, arrest, confuse and deter arthropods as well as to disrupt their biological clocks.

192 pp, 6 in x 9 in**Cloth, 2020, 978 1 78639 470 5, \$ 123.00****Biological Control in Latin America and the Caribbean***Its Rich History and Bright Future***Edited by J. C. van Lenteren, Vanda H.P. Bueno, Maria Gabriela Luna and Yelitza Colmenarez**

The book summarizes the history of biological control in Latin America and the Caribbean. There are a wealth of text, tables and references about the history of such projects, and which were successful and which failed. This will help plan future biocontrol projects. An overview is provided of the current situation in biological control for many Latin American and Caribbean countries, revealing an astonishing level of practical biological control applied in the region, making it the largest area under biological control worldwide. The final part describes new developments and speculates about the future of biological control in Latin America and the Caribbean.

520 pp, 6 in x 9 in**Cloth, 2020, 978 1 78924 243 0, \$ 230.65****Plant Parasitic Nematodes in Subtropical and Tropical Agriculture****THIRD EDITION****Edited by Richard A. Sikora, D. L. Coyne, J. Hallmann and P. Timper****888 pp, 6.75 in x 9.5 in, full-color illus throughout****Cloth, 2018, 978 1 78639 124 7, \$ 97.40****Cyst Nematodes****Edited by Roland N. Perry, Maurice Moens and John T. Jones****456 pp, 6.75 in x 9.5 in****Cloth, 2018, 978 1 78639 083 7, \$ 92.25****Aphids as Crop Pests****SECOND EDITION****Edited by Helmut van Emden and Richard Harrington****700 pp, 7.5 in x 9.625 in, figures, graphs & color photos****Cloth, 2017, 978 1 78064 709 8, \$ 306.40****Biocontrol Agents***Entomopathogenic and Slug Parasitic Nematodes***Edited by M. M. Abd-Elgawad, Tarique Hassan Askary and James Coupland****660 pp, 7.5 in x 9.625 in, tables, figures & b/w & color illus****Cloth, 2017, 978 1 78639 000 4, \$ 263.95****The Economics of Soybean Disease Control****Nicholas Kalaitzandonakes, James Kaufman and Kenneth Zahringer****200 pp, 6.75 in x 9.25 in****Cloth, 2019, 978 1 78064 808 8, \$ 164.00**

Handbook of Mites of Economic Plants*Identification, Bio-ecology and Control*

Vincenzo Vacante

832 pp, 8.625 in x 11 in

Cloth, 2016, 978 1 84593 994 6, \$ 395.85

**Handbook of Pest Management in Organic Farming**

Edited by Vincenzo Vacante and Serge Kreiter

576 pp, 6.75 in x 9.5 in

Cloth, 2017, 978 1 78064 499 8, \$ 297.25

**A History of Pesticides**

Graham A. Matthews

280 pp, 6.75 in x 9.5 in

Cloth, 2018, 978 1 78639 487 3, \$ 61.50

**Integrated Management of Insect Pests on Canola and Othe Brassica Oilseed Crops**

Edited by Gadi V. P. Reddy

408 pp, 7.5 in x 9.625 in

Cloth, 2017, 978 1 78064 820 0, \$ 306.40

**Biology and Management of Bactrocera and Related Fruit Flies**

Anthony R. Clarke

272 pp, 6 in x 9 in

Cloth, 2019, 978 1 78924 182 2, \$ 107.65

**Integrated Pest Management in Tropical Regions**

Edited by Carmelo Rapisarda and G. Massimino Cocuzza

312 pp, 6.75 in x 9.5 in

Cloth, 2017, 978 1 78064 800 2, \$ 164.00

**The Economics of Integrated Pest Management of Insects**

David W. Onstad and Philip R. Crain

232 pp, 7 in x 9 in

Cloth, 2019, 978 1 78639 367 8, \$ 123.00

**Invasive Plant Species of the World***A Reference Guide to Environmental Weeds*

SECOND EDITION

Ewald Weber

596 pp, 8.625 in x 11 in, illus & maps

Cloth, 2017, 978 1 78064 386 1, \$ 337.75

**Parthenium Weed***Biology, Ecology and Management*

Edited by Stephen Adkins, Asad Shabbir and Kunjithapatham Dhileepan

CABI Invasives Series

312 pp, 6.75 in x 9.5 in

Cloth, 2018, 978 1 78064 525 4, \$ 61.50

**Invasion Biology***Hypotheses and Evidence*

Edited by Jonathan M. Jeschke and Tina Heger

CABI Invasives Series

192 pp, 6.75 in x 9.5 in, color figures

Cloth, 2018, 978 1 78064 764 7, \$ 128.15

Paper, Jan 2022, 978 1 80062 161 9, \$ 60.00

**Invasive Alien Plants***Impacts on Development and Options for Management*

Edited by Carol A. Ellison, Sean T. Murphy and K. V. Sankaran

CABI Invasives Series

250 pp, 6.75 in x 9.5 in, tables & color photos

Cloth, Nov 2017, 978 1 78064 627 5, \$ 147.60



HORTICULTURE AND FOOD

NEW!**Concepts for Understanding Fruit Trees**

Theodore DeJong

Anyone who observes fruit trees may wonder how or why they behave in specific ways. It is common to ascribe such behavior to the tree as a whole and state that trees preferentially "allocate" resources to specific organs.

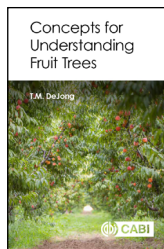
This, however, is the wrong approach to understanding tree functioning and behavior. Trees are not in control of what they do. What trees do and how they function is shaped by the individual organs that make up the tree, not by the tree as a whole. The genetic code only indirectly determines the habit, structure and behavior of a tree by defining the behavioral and functional limits of the component organs, tissues and cells. Unlike animals that have a mechanism for collective control of the whole organism—a central nervous system—trees (and plants in general) are more appropriately considered as collections of semi-autonomous organs. These organs are dependent on one another for resources, such as water, energy and nutrients, but control their own destiny.

This book presents a clear set of integrative concepts for understanding the overall physiology and growth of temperate deciduous fruit trees. The emphasis is on overarching principles rather than detailed descriptions of tree physiology or differences among the numerous species of fruit trees. Although the focus is on deciduous fruit trees many aspects apply to evergreen fruit trees and trees that grow naturally in unmanaged situations.

CABI Concise

136 pp, 6 in x 9 in

Paper, Feb 2022, 978 1 80062 086 5, \$ 30.00

**NEW!****Advances in Fig Research and Sustainable Production**

Edited by Moshe A. Flaishman and Uygun Aksoy

The common fig (*Ficus carica* L.) is one of the oldest fruits domesticated by humans, and is native to southwest Asia and the Mediterranean. Figs have been associated with health and prosperity since ancient times. They are rich in fibre, potassium, calcium, and iron, as well as being an important source of vitamins, amino acids, and antioxidants.

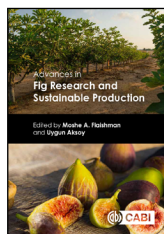
In recent years, increased consumption has caused fig production to shift to new countries such as Mexico, Brazil, India, and China. However, fig is a challenging fruit crop to grow. It is susceptible to insect pests and diseases as well as injuries from abiotic stress during fruit development and ripening. As a delicate fruit it also requires complicated postharvest procedures and climate change presents additional challenges.

Comprising 29 chapters written by international experts, the book includes sections on:

- History
- Biology and Orchard Management
- Fruit Ripening and Postharvest Management
- Pests and Diseases
- Omics Analysis
- Cultivars and Breeding
- Products and Trade

536 pp, 6 in x 9 in

Cloth, Aug 2022, 978 1 78924 247 8, \$ 210.00



NEW!**Handbook of Phytonutrients in Indigenous Fruits and Vegetables**

Edited by Dharini Sivakumar,
Michael Netzel and Yasmina
Sultanbawa

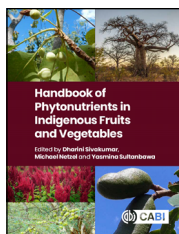
Indigenous plants, in the form of indigenous fruits and leafy vegetables are gaining interest as a source of nutrients and bioactive phytochemicals, satisfying both food demand and health needs. Moreover, with the impact of climate change, and the importance of sustainability of food systems, it is essential that we investigate new, forgotten and alternative crops that can thrive in harsh conditions, require low fertilizer input, and are easily harvestable.

This book contains chapters on 33 understudied indigenous fruits and vegetables from all around the world, including African nightshade, amaranth, baobab fruit, Indian gooseberry, red bush apple, and snake melon. Each chapter provides:

- An overview of plant botany
- An understanding of the phytonutrient constituents and health-promoting properties of bioactive compounds or metabolites
- Information on the biological activity of the functional compounds that will improve productivity and increase utilization of indigenous fruits and vegetables to sustain food security

448 pp, 6 in x 9 in

Cloth, Sep 2022, 978 1 78924 804 3, \$ 200.00

**NEW!****Food Industry 4.0**

*Unlocking Advancement
Opportunities in the Food
Manufacturing Sector*

Wayne Martindale, Linh N. K. Duong,
Sandeep Jagtap and Mark Swainson

Drawing on their industry and academic expertise, the authors have identified three controlling aspects of food business operations that can unleash long term success: consumer health and wellbeing; product and process sustainability; and harnessing advances in digitalization. If developed to their maximum potential these factors have the capability to revolutionize the food sector.

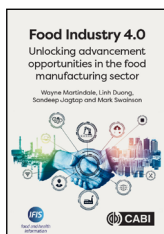
Food Industry 4.0 highlights advancement opportunities for the food manufacturing sector, including innovation in products, processes and services, as it seeks to combine productive, efficient and sustainable practices. The contents address:

- Mapping data, new approaches for food system applications
- The perfect meal and making a balanced global diet possible
- Industry 4.0 applications in the food sector
- Resource utilization in the food manufacturing sector
- Resilience and sustainability in food supply chains
- Environmental and social governance in our food system.

168 pp, 6 in x 9 in

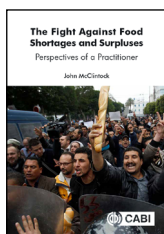
Cloth, Sep 2022, 978 1 80062 103 9, \$ 120.00

Paper, Sep 2022, 978 1 78924 842 5, \$ 47.50

**The Fight Against Food Shortages and Surpluses**

Perspectives of a Practitioner
John McClintock

Focusing on hunger as an issue of price, this book addresses major global problems anew by navigating the reader through issues and ideologies surround the reasons behind food price volatility and its adverse consequences, evaluates the various policy tools that have been proposed to eliminate hunger and reduce volatility, and concludes with a practical strategy to moderate volatility: grain buffer stocks. Starting from the observation that food prices are naturally volatile, *The Fight Against Food Shortages and Surpluses*:



Perspectives of a Practitioner uses theory and evidence to address key questions such as:

- Can price volatility be moderated?
- Do previously and currently employed policy tools work to eliminate hunger and reduce volatility?
- What are the costs of these policy tools and their side-effects?

In answering these questions, the author comprehensively explains the political and economic logic of buffer stocks to control the price of grain and responds to practical and ideological objections to this solution.

184 pp, 6 in x 9 in

Cloth, 2021, 978 1 78639 484 2, \$ 133.25

Paper, Mar 2022, 978 1 80062 121 3, \$ 56.40

**Crop Pollination by Bees**

*Volume 1: Evolution, Ecology,
Conservation, and Management*

SECOND EDITION

Keith S. Delaplane

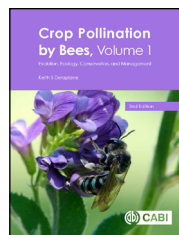
This book is a practical research-based guide to using bees for crop pollination, which emphasizes conserving feral bee populations as well as more traditional methods of culturing honey bees and other bees. There are two main sections that address the biology of pollination, and culturing and managing bees for optimum crop pollination.

Volume 1 is intended as a practical guide to bees and how they pollinate essential crops, providing simple, succinct advice on how to increase bee abundance and pollination.

Volume 2 (forthcoming from CABI in 2023) provides the reader with information on bee pollination of specific crops.

208 pp, 7 in x 9 in

Paper, 2021, 978 1 78639 349 4, \$ 67.50

**Cut Flowers and Foliages**

Edited by James E. Faust
and John Dole

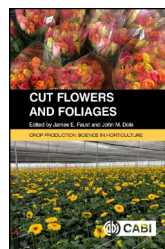
This book describes the main international production locations and markets for cut flowers, including current trends and directions. The focus is on production in protected cultivation. The major species - including rose, chrysanthemum, carnation, orchid, gerbera - dominate the global market and these are individually explored in detail.

Specialty species and cut foliages are also addressed, as well as significant details of production, including irrigation and fertilization; disease and disease management; and biological control of pests. Finally, the postharvest chapter covers details of harvesting, transporting and delivering high quality flowers that provide an excellent vase life.

Crop Production Science in Horticulture

408 pp, 6 in x 9 in, color illus throughout

Paper, 2021, 978 1 78924 760 2, \$ 70.00

**Mushrooms**

Agaricus Bisporus

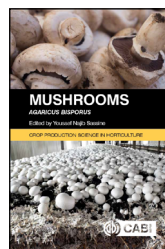
Edited by Youssef Najib Sassine

This book presents fundamental guidelines for white button mushroom production as well as major scientific findings in this field. It covers mushroom production and trade, substrates properties, compost quality, breeding, pests and diseases, harvesting, and post-harvest technologies. With practical information on methods used by both commercial and small-scale growers, the book also addresses: the major steps of the mushroom production cycle; ways to improve *A. bisporus* yield, quality, and disease resistance; and case studies to illustrate cultivation techniques in a range of different countries, making use of local agricultural or industrial wastes.

Crop Production Science in Horticulture

400 pp, 6 in x 9 in

Paper, 2021, 978 1 80062 041 4, \$ 80.00



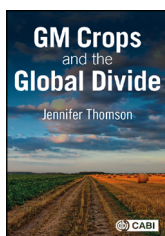
GM Crops and the Global Divide

Jennifer Thomson

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.

200 pp, 6 in x 9 in

Paper, 2021, 978 1 78924 840 1, \$ 41.00



Hydroponics and Protected Cultivation

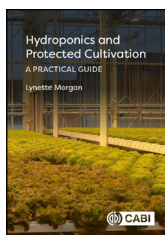
A Practical Guide

Lynette Morgan

A comprehensive, practical text which covers a diverse range of hydroponic and protected cropping techniques, systems, greenhouse types and environments. There is detailed technical information on hydroponic and greenhouse production to help growers and students to design and run their own hydroponic operations. More advanced research is included to explain the factors which influence plant growth, produce quality, post harvest life and advanced hydroponic plant nutrition. What makes this book unique is the additional information on new advances in hydroponic cultivation such as the use of organic nutrients and substrates, the growing trend in the use of completely enclosed indoor plant factories and the growing number of small-scale, non-commercial applications. The book is fully illustrated with color images and photographs to illustrate key topics and help identify problem areas.

312 pp, 6 in x 9 in, illus & photos

Cloth, 2021, 978 1 78924 483 0, \$ 67.50



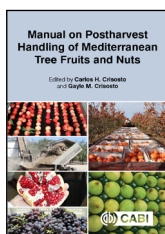
Manual on Postharvest Handling of Mediterranean Tree Fruits and Nuts

Edited by Carlos H. Crisosto and Gayle M. Crisosto

Postharvest is an important element of getting fresh, high-quality fruit to the consumer; technological advances continue to outpace infrastructure. This book provides valuable, up-to-date information on postharvest handling of seven fruit and nut crops: almond, fig, table grape, pistachio, persimmon, peach and pomegranate. These crops are of particular importance in the Mediterranean region, but also to those countries that export and import these crops, where intensive economic resources are dedicated to developing information to understand and solve their postharvest problems.

160 pp, 6 in x 9 in, photos

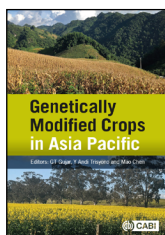
Paper, 2020, 978 1 78924 717 6, \$ 61.50



Genetically Modified Crops in Asia Pacific

Edited by Govind T. Gujar, Y. Andi Trisyono and Mao Chen

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 development and cultivation of insect protective 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 and discussed 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.

344 pp, 6 in x 9 in

Cloth, 2021, 978 1 78924 841 8, \$ 158.90



Physiology of Vegetable Crops

SECOND EDITION

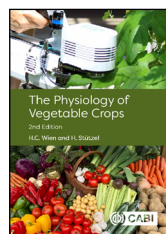
Edited by H. Christian Wien and Hartmut Hützel

The second edition of *The Physiology of Vegetable Crops*:

- contains two new chapters looking at stress effects on vegetable crops with a particular emphasis on climate change and models of vegetable growth and development
- is fully updated to reflect recent discoveries and the advent of new production techniques such as growing in artificial environments
- provides enhanced understanding of the growth and function of 18 different vegetable crops
- is heavily illustrated and published in full color throughout

496 pp, 6 in x 9 in, illus, full color throughout

Cloth, 2020, 978 1 78639 377 7, \$ 215.25



Sweet Cherries

Lynn Long, Gregory Lang and Clive Kaiser

"*Sweet Cherries* is written with practical details and underlying physiological concepts for use by beginning and established fruit growers, consultants, and advisors, with a primary focus on fresh market sweet cherries, in addition to students and professionals in horticulture."—*Fruit Growers News*

Crop Production Science in Horticulture

360 pp, 6 in x 9 in, color illus

Paper, 2020, 978 1 78639 828 4, \$ 61.50



Tropical Roots and Tuber Crops

Cassava, Sweet Potato, Yams and Aroids

SECOND EDITION

Vincent Lebot

Crop Production Science in Horticulture

560 pp, 6 in x 9 in

Paper, 2019, 978 1 78924 336 9, \$ 87.15



Sustaining Global Food Security

The Nexus of Science and Policy

Edited by Robert S. Zeigler

560 pp, 6 in x 9 in, color plates, illus, photos

Cloth, 2019, 978 1 48630 808 8, \$ 143.95



Australia's Role in Feeding the World

The Future of Australian Agriculture

Edited by Tor Hundloe, Sarah Blagrove and Hannah Dittton

280 pp, 6.625 in x 9.625 in, photos, maps & illus

Paper, 2017, 978 1 48630 589 6, \$ 44.95



Tropical Forage Legumes

Harnessing the Potential of Desmanthus and Other Genera for Heavy Clay Soils

John R. Lazier and Nazeer Ahmad

480 pp, 6.75 in x 9.5 in, tables, figures & color photos

Cloth, 2016, 978 1 78064 628 2, \$ 244.85



Vegetable Grafting

Principles and Practices

Edited by Giuseppe Colla, Francisco Perez-Alfocea and Dietmar Schwarz

296 pp, 6.75 in x 9.5 in, tables, figures & color photos

Cloth, 2017, 978 1 78064 897 2, \$ 147.60



Trichoderma – Ganoderma Disease Control in Oil Palm*A Manual*

Ike Virdiana, Miranti Rahmaningsih, Brian P. Forster and Julie Flood

Techniques in Plantation Science

96 pp, 6 in x 9 in

Paper, 2019, 978 1 78924 145 7, \$ 30.75

**BIOTECHNOLOGY & PLANT PRODUCTION****NEW!****Biostimulants for Crop Production and Sustainable Agriculture**

Edited by Mirza Hasanuzzaman, Barbara Hawrylak-Nowak, Tofazzal Islam and Masayuki Fujita

Agricultural biostimulants are a group of substances or microorganisms, based on natural resources, that are applied to plants or soils to improve nutrient uptake and plant growth, and to provide better tolerance to various stresses. Their function is to stimulate the natural processes of plants or to enrich the soil microbiome to improve plant growth, nutrition, abiotic and/or biotic stress tolerance, yield and quality of crop plants. Interest in plant biostimulants has been on the rise over the past 10 years, driven by the growing interest of researchers and farmers in environmentally-friendly tools for improved crop performance.

Focusing on recent progress on biostimulants and their role in crop production and agricultural sustainability, this book includes:

- 31 chapters on a wide range of biostimulants and their role in plant growth stimulation and stress tolerance.
- Mechanism of actions of diverse groups of biostimulants, such as trace elements, plant and seaweed extracts, humic substances, polyamines, osmolytes, vitamins, nanoparticles and microorganisms.
- New promising biostimulants with novel modes of action.

368 pp, 6 in x 9 in

Cloth, Oct 2022, 978 1 78924 807 4, \$ 160.00

**NEW!****Next-generation Sequencing and Agriculture**

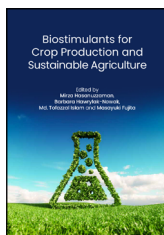
Edited by Philipp Bayer and David Edwards

Genome sequencing has become a basic tool of plant and animal breeding. Reduced costs have allowed the sequencing of thousands of cultivars, leading to previously unobtainable insights into genetic impacts during breeding and generating large numbers of novel candidate breeding genes. This book summarizes the impacts that the genome sequencing revolution has had on agriculture with reference to applications across species and locations. It explains new techniques and their use in understanding epigenetics, breeding and conservation. It is a useful resource for scientists wanting to learn how different fields of agriculture have adapted novel genome sequencing technologies to their requirements, and for those wanting to transfer technologies and lessons learned from one field of agriculture to another.

CABI Biotechnology Series

192 pp, 6 in x 9 in

Cloth, Aug 2022, 978 1 78924 782 4, \$ 115.00

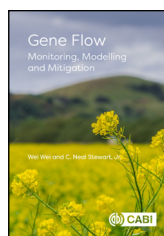
**NEW!****Gene Flow***Monitoring, Modelling and Mitigation*

Edited by Wei Wei and Neal Stewart

Gene flow is a natural process that occurs spontaneously and enables the evolution of life. However, with the release of genetically modified organisms, concerns have focused on introduced foreign transgenes and their dispersal in nature through gene flow. This book examines gene flow of transgenes, such as herbicide resistance genes, with the goal of understanding the factors that may affect the process of gene flow. A greater biological understanding is essential to make sound management regulatory decisions when also taking into consideration the processes that happen in conventional plants. Monitoring, modelling, and mitigation are the three most closely related elements of gene flow. The book includes both scientific reviews and perspectives on gene flow and experimental case studies, including studies of gene flow in soybean and poplar. The authors present diverse views and research methodologies to understand transgene flow.

168 pp, 6 in x 9 in

Cloth, 2021, 978 1 78924 748 0, \$ 120.00

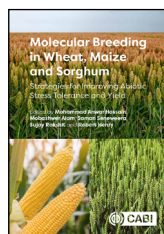
**Molecular Breeding in Wheat, Maize and Sorghum***Strategies for Improving Abiotic Stress Tolerance and Yield*

Edited by Mohammad Anwar Hossain, Mobashwer Alam, Saman Seneweera, Sujay Rakshit and Robert Henry

Molecular breeding technologies offer real hope for improving crop yields. Although significant progress has been made over the last few years, there is still a need to bridge the large gap between yields in the most favorable and most stressful conditions. This book provides a valuable resource for wheat, maize and sorghum scientists working on breeding and molecular biology, physiology and biotechnology; presents the latest in-depth research in the area of abiotic stress tolerance and yield improvements; contains the necessary information to allow plant breeders to apply this research to effectively breed new varieties of these crops.

552 pp, 6 in x 9 in

Cloth, 2021, 978 1 78924 543 1, \$ 240.00

**Mutation Breeding, Genetic Diversity and Crop Adaptation to Climate Change**

Edited by Sobhana Sivasankar, Thomas Henry Noel Ellis, Ljupcho Jankuloski and Ivan Ingelbrecht

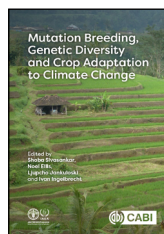
In this book an international team of expert authors review achievements, new developments, trends and challenges in the field of plant mutation breeding, across the scientific community and the private sector. Chapters highlight specific challenges, such as emerging transboundary threats to crop production, and assess the overall importance of mutation breeding to food security.

Coverage includes:

- Contribution and impact of mutant varieties to food security.
- Mutation breeding for adaptation to climate change in seed propagated crops.
- Mutation breeding for ornamental and vegetatively propagated crops.
- Enhancing agro biodiversity through new mutation induction techniques.
- New challenges and technologies in plant genomics and breeding.

512 pp, 6 in x 9 in

Cloth, 2021, 978 1 78924 909 5, \$ 175.00



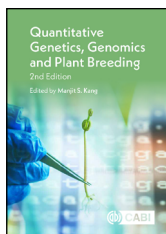
Quantitative Genetics, Genomics and Plant Breeding

SECOND EDITION

Edited by Manjit S. Kang

This book presents authoritative chapters on contemporary issues in the broad areas of quantitative genetics, genomics and plant breeding. Part 1 emphasizes the application of genomics, and genome and epigenome editing techniques, in plant breeding; bioinformatics; quantitative trait loci mapping; and the latest approaches of examining and exploiting genotype-environment interactions. Part 2 represents the intersection of breeding, genetics and genomics. This section describes the use of cutting-edge molecular breeding and quantitative genetics techniques in wheat, rice, maize, root and tuber crops and pearl millet. Overall, the book focuses on using genomic information to help evaluate traits that can combat biotic/abiotic stresses, genome-wide association mapping, high-throughput genotyping/phenotyping, biofortification, use of big data, orphan crops, and gene editing techniques. The examples featured are taken from across crop science research and cover a wide geographical base.

416 pp, 6 in x 9 in
Cloth, 2020, 978 1 78924 021 4, \$ 179.40

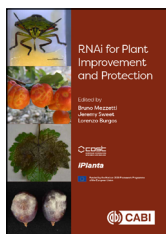


RNAi for Plant Improvement and Protection

Edited by Bruno Mezzetti, Jeremy Sweet and Lorenzo Burgos

RNAi is being developed and exploited both within plants (i.e. host-induced gene silencing, HIGS) and/or as topical applications (e.g. spray-induced gene silencing, SIGS) for targeting pest and pathogen genes and for manipulating endogenous gene expression in plants. Chapters by international experts review current knowledge on RNAi, methods for developing RNAi systems in GM plants and applications for crop improvement, crop production and crop protection. Chapters examine both endogenous systems in GM plants and exogenous systems where interfering RNAs are applied to target plants, pests and pathogens. The biosafety of these different systems is examined and methods for risk assessment for food, feed and environmental safety are discussed. Finally aspects of the regulation of technologies exploiting RNAi and the socio-economic impacts of RNAi technologies are discussed.

216 pp, 6 in x 9 in
Cloth, 2021, 978 1 78924 889 0, \$ 115.00



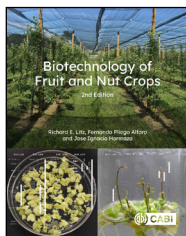
Biotechnology of Fruit and Nut Crops

SECOND EDITION

Edited by Richard E. Litz, F. Pliego-Alfaro and J. I. Hormaza

This book covers biotechnologies such as regeneration pathways, protoplast culture, in vitro mutagenesis, and ploidy manipulation that have been applied to many of these species. Three species, *Diospyros kaki* (persimmon), *Punica granatum* (pomegranate) and *Eriobotrya japonica* (loquat) are included for the first time, and several *Prunus* species now receive separate coverage. The species are organized by plant family to facilitate comparisons among related ones. Each species is discussed in relation to its family and its related wild forms, and most are accompanied by full color illustrations. This book is a vital resource for those working on the improvement of perennial fruit, nut and plantation crops.

Biotechnology in Agriculture Series
750 pp, 8 in x 10 in, color illus
Cloth, 2020, 978 1 78064 827 9, \$ 328.00



Endophyte Biotechnology

Potential for Agriculture and Pharmacology

Edited by Alexander Schouten

CABI Biotechnology Series 8
208 pp, 6 in x 9 in
Cloth, 2019, 978 1 78639 942 7, \$ 143.50

Biopesticides Manual

Guidelines for Selecting, Sourcing, Producing and Using Biopesticides for Key Pests of Tobacco

K. A. Holmes, Dirk Babendreier, M. Bateman, M. Chaudhary, J. Grunder, M. Mulaa, L. Durocher-Granger and M. Faheem
158 pp, 6 in x 9 in
Paper, 2019, 978 1 78924 202 7, \$ 41.00

Emerging Trends in Agri-Nanotechnology

Fundamental and Applied Aspects

Edited by Harikesh Bahadur Singh, Sandhya Mishra, Leonardo Fernandes Fraceto and Renata D. de Lima
328 pp, 6.75 in x 9.5 in, tables & color illus
Cloth, 2018, 978 1 78639 144 5, \$ 92.25

Maize Kernel Development

Edited by Brian A. Larkins

240 pp, 6.75 in x 9.5 in
Cloth, 2018, 978 1 78639 121 6, \$ 164.00

Advances in PGPR Research

Edited by Harikesh Bahadur Singh, Birinchi Kumar Sarma and Chetan Keswani

408 pp, 6.75 in x 9.5 in
Cloth, 2017, 978 1 78639 032 5, \$ 230.65

Plant Gene Silencing

Mechanisms and Applications

Edited by Tamas Dalmay

CABI Biotechnology Series 5
224 pp, 6.75 in x 9.5 in, tables & color illus
Cloth, 2017, 978 1 78064 767 8, \$ 147.60

The Business of Plant Breeding

Market-led Approaches to Plant Variety Design in Africa

Edited by Gabrielle J. Persley and Vivienne M. Anthony

232 pp, 6.75 in x 9.5 in, color illus
Cloth, 2017, 978 1 78639 381 4, \$ 142.45

SOIL SCIENCE

NEW!

Plants for Soil Regeneration

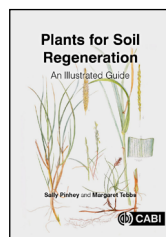
An Illustrated Guide

Sally Pinhey and Margaret Tebbs

This book is a comprehensive, beautifully illustrated color guide to the plants which farmers, growers and gardeners can use to improve soil structure and restore fertility without the use and expense of agrichemicals. Information based on the latest research is given on how to use soil conditioning plants to avoid soil degradation, restore soil quality, and help clean polluted land.

There are 11 chapters: 1 to 6 cover soil health, nitrogen fixation, green manures and herbal leys, bacteria and other microorganisms, phytoremediators and soil mycorrhiza (plant-fungal symbiosis). Chapter 7 has plant illustrations, with climate range and soil types, along with their soil conditioning properties and each plant is presented with a comprehensive description opposite a detailed illustration, in full color. Chapters 8 to 10 examine soil stabilizers, weeds and invasive plants, and hedges and trees, and the final chapter, contains 5 case studies with the most recent data, followed by an appendix and glossary. The book allows the reader to identify the plants they need quickly and find the information necessary to begin implementation of soil regeneration.

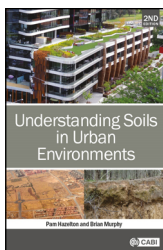
168 pp, 7 in x 9 in, color illus
Cloth, Mar 2022, 978 1 78924 360 4, \$ 75.00



NEW!**Understanding Soils in Urban Environments****SECOND EDITION****Pam Hazelton and Brian Murphy**

Understanding Soils in Urban Environments is a concise book explaining how urban soils develop, change, and erode. Soils provide the foundation for buildings and infrastructure, and the medium for plant growth in fields, parks, and gardens. They can act as a sink for waste, and can be contaminated in urban areas by heavy metals, organic chemicals and other contaminants. Soil properties such as water retention, salinity and acidity can cause environmental and structural problems for buildings and other engineering works. This text recognizes and draws attention to the particular nature of soils in urban environments and discusses their distinctive management needs.

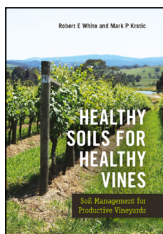
This new edition updates and expands on the original text, including a specific chapter on the use of manufactured soil for rehabilitation and recreation, and additional case studies in other chapters, particularly on contamination. The text is also updated to address the increasing importance of soil health for seed banks and parklands, and its implications for planning developments, the legal determination of bioregions, and addressing environmental issues that can arise from mismanagement of urban soils.

200 pp, 6 in x 9 in**Cloth, Jan 2022, 978 1 78924 993 4, \$ 120.00****Healthy Soils for Healthy Vines***Soil Management for Productive Vineyards***Robert E. White and Mark P. Krstic**

Healthy Soils for Healthy Vines provides a clear understanding of vineyard soils and how to manage and improve soil health for best vineyard performance. It covers the inherent and dynamic properties of soil health, how to choose which soil properties to monitor, how to monitor soil and vine performance, and how vineyard management practices affect soil health, fruit composition and wine sensory characters. It also covers the basic tenets of sustainable winegrowing and their significance for business resilience in the face of a changing climate.

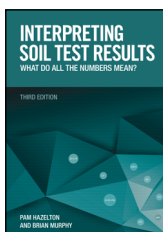
Features:

- Explains the key properties underpinning soil health and their importance for healthy grapevines
- Describes the full range of vineyard soil management practices and their effect on soil health
- Explores the relationships between soil properties and vine growth, fruit composition and wine sensory characters
- Includes procedures for measuring important soil properties and identifying optimum values, and provides a recommended Minimum Dataset of physical, chemical and biological indicators of soil health
- Reviews projections for climate change and discusses possible impacts on sustainable winegrowing and the resilience of wine businesses

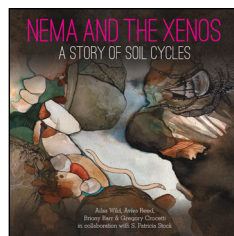
240 pp, 6 in x 9 in**Cloth, 2019, 978 1 78924 316 1, \$ 107.65****Interpreting Soil Test Results***What Do All the Numbers Mean?***THIRD EDITION****Pam Hazelton and Brian Murphy**

Review of the second edition:

"*Interpreting Soil Test Results* is a handy compendium. Soil scientists who write for clients and the clients who read their reports...should find this book valuable."—*European Journal of Soil Science*

200 pp, 6.625 in x 9.625 in, tables**Paper, 2017, 978 1 48630 396 0, \$ 44.95****Nema and the Xenos***A Story of Soil Cycles***Ailsa Wild, Aviva Reed, Briony Barr, Gregory Crocetti and S. Patricia Stock**

"A beautifully illustrated, exciting and engaging story that is sure to inspire a child's imagination; while providing a scientifically accurate glimpse into the complex structure and living networks within soil."—**Dr. Eva Schneider and Dr. Elaine Ingham, Soil Foodweb**

Small Friends Books 3**48 pp, 9 in x 9 in, color illus throughout****Cloth, 2019, 978 1 48631 216 0, \$ 19.95****PLANT BIOLOGY****NEW!****The Constituents of Medicinal Plants****THIRD EDITION****Andrew Pengelly**

This unique book explains in simple terms the commonly occurring chemical constituents of medicinal plants, and how these react with the human body. The major classes of plant constituents, such as phenols, terpenes and polysaccharides, are described both in terms of their chemical structures and their pharmacological activities.

The last 20 years has seen huge growth in research output in phytochemistry, and this edition has been thoroughly revised to incorporate up-to-date research. It contains a new chapter on resins and cannabinoids, and additional content on macrocarpals, essential oil chemotypes, mushroom polysaccharides, phytochemical synergy, and toxicology of phytochemicals.

Features include:

- Over 200 diagrams of chemical structures
- Clearly written, and student-friendly format
- References to primary research literature

Designed as an undergraduate text, this is an essential desktop reference for health practitioners, lecturers, researchers, producers, and anyone with an interest in how medicinal herbs work.

264 pp, 6 in x 9 in**Paper, 2021, 978 1 78924 307 9, \$ 35.00****Plant Stress Physiology****SECOND EDITION****Edited by Sergey Shabala****376 pp, 6.75 in x 9.5 in, figures, tables & color photos****Cloth, 2017, 978 1 78064 729 6, \$ 169.15****The Handbook of Microbial Metabolism of Amino Acids****Edited by J. P. F. D'Mello****560 pp, 6.75 in x 9.5 in****Cloth, 2017, 978 1 78064 723 4, \$ 337.75****UV-B Radiation and Plant Life***Molecular Biology to Ecology***Edited by Brian R. Jordan****200 pp, 6.75 in x 9.5 in, figures****Cloth, 2017, 978 1 78064 859 0, \$ 169.15**

AGRICULTURE & AGRIBUSINESS

NEW!

Applied Crop Physiology

Understanding the Fundamentals of Grain Crop Management

Dennis B. Egli

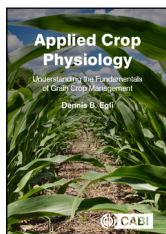
This book presents a simple, straightforward discussion of the principles and processes involved in the production of grain yield by agronomic crops, and how these processes underlie and influence management decisions. The focus is principally on maize and soybean, although the general principles apply equally well to cereals, grain legumes and oil crops.

The contents include:

- Basic plant growth processes e.g. photosynthesis, respiration, evapotranspiration
- Growth and production of yield
- Crop management - seed quality, variety selection, plant date, row spacing
- Crop production in the future - climate change, GMOs, precision data and new crops

192 pp, 6 in x 9 in

Cloth, 2021, 978 1 78924 595 0, \$ 105.00



NEW!

Conservation Agriculture in Africa

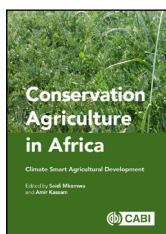
Climate Smart Agricultural Development

Edited by Saidi Mkomwa and Amir H. Kassam

This landmark volume is based on the material presented at the Second Africa Congress on Conservation Agriculture which was held in Johannesburg, South Africa, 9-12 October 2018. The main theme of the Congress was "Making Climate Smart Agriculture Real in Africa with Conservation Agriculture: Supporting the Malabo Declaration and Agenda 2063." The Congress was aligned to mobilize stakeholders in all agriculture sectors to provide development support, impetus and direction to the vision and agenda for transforming African agriculture as set out by the Malabo Declaration and Agenda 2063.

512 pp, 6 in x 9 in

Cloth, Feb 2022, 978 1 78924 574 5, \$ 245.00



A Manual for Agribusiness Value Chain Analysis in Developing Countries

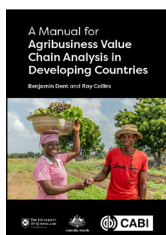
Benjamin Dent and Ray Collins

Value Chain Analysis (VCA) diagnoses the current state of a value chain and makes recommendations to improve its effectiveness and efficiency.

Applying VCA in developing countries is very often subject to limited time and funding. This manual shows how VCA principles can be applied under such circumstances. It explains how to undertake affordable VCA that still generate valid data and so produce recommendations that will have impact.

128 pp, 6 in x 9 in

Paper, 2021, 978 1 78924 936 1, \$ 35.00



Controlled Atmosphere Storage of Fruit and Vegetables

THIRD EDITION

Anthony Keith Thompson, Robert K. Prange, Roger D. Brockroft and Tongchai Puttongtong

430 pp, 6.75 in x 9.6 in, four-color illus

Cloth, 2019, 978 1 78639 373 9, \$ 92.25

Sustainable Bamboo Development

Z. Zhu and W. Jin

320 pp, 6.75 in x 9.5 in, table & color illus

Cloth, 2018, 978 1 78639 401 9, \$ 76.90

Data Analysis in Vegetation Ecology

THIRD EDITION

Otto Wildi

352 pp, 6.125 in x 9.5 in

Paper, 2017, 978 1 78639 422 4, \$ 66.65

Global Urban Agriculture

Convergence of Theory and Practice between North and South

Edited by Antoinette WinklerPrins

Preface by Nathan McClintock

280 pp, 6.75 in x 9.5 in

Cloth, 2017, 978 1 78064 732 6, \$ 147.60

Legumes in Cropping Systems

Edited by Donal Murphy-Bokern, Fred Stoddard and Christine Watson

270 pp, 6.75 in x 9.5 in, full-color illus

Cloth, 2017, 978 1 78064 498 1, \$ 147.60

Seed Biology and Yield of Grain Crops

SECOND EDITION

Dennis B. Egli

232 pp, 6.125 in x 9.5 in, graphs

Cloth, 2017, 978 1 78064 770 8, \$ 147.60

REFERENCE AND RESEARCH

NEW!

Encyclopedia of Scale Insect Pests

Edited by Takumasa Kondo and Gillian Watson

The *Encyclopedia of Scale Insect Pests* is the most comprehensive work on worldwide scale insect pests, providing detailed coverage of the most important species (230 species in 26 families, 36% of the species known).

Advice is provided on collection, preservation, slide-mounting, voucher, and labelling of specimens, fully illustrated with color photographs, diagrams and drawings.

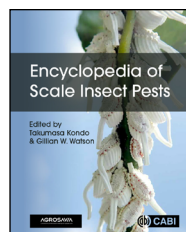
Pest species are presented in two informal groups of families, the "primitive" Archaeococcids followed by the more "advanced" Neococcids, covered in phylogenetic order. Each family is illustrated and diagnosed based on features of live and slide-mounted specimens, with information on numbers of genera and species, main hosts, distribution, and biology.

For the important pest species, coverage includes information on the morphology of live and slide-mounted specimens, common names, principal synonyms, geographical distribution, plant hosts, plant damage and economic impact, reproductive biology, dispersal, and management strategies including biological, cultural and chemical control, sterile insect techniques, regulatory control, early warning systems and field monitoring. An additional complete list of scale insect pests worldwide is provided, comprising 642 species in 28 scale insect families (about 8% of the 8396 species of living scales known), with information on plant hosts, geographical distribution and validation sources.

Beneficial uses of scale insects as sources of red dyes, natural resins and waxes, as agents for invasive weed control. The importance of their honeydew to bees for making honey, and as a food source to other animals, are included.

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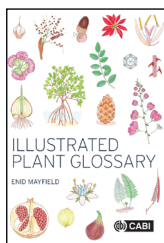
"A good botanical glossary—and by good, I mean one that is both useful and used often—is a potent mix of art and science. In this case, the art is both literal, through Enid Mayfield's beautifully soft and precise watercolours, and in the exquisite way the definitions are crafted and presented. The science of course is in the detail, and this is exceptional. The result is more than a charming addition to my bookshelf. It will now unseat my previous glossary of choice (from Kew Gardens no less) and sit proudly beside Benjamin Daydon Jackson's *Glossary of Botanical Terms*, a masterpiece of science but not of art."—PROFESSOR TIM ENTWISLE, *Royal Botanic Gardens, Melbourne, Australia*

The *Illustrated Plant Glossary* is a comprehensive glossary of over 4000 terms related to plant sciences, featuring superb color illustrations to aid comprehension of many of the plant terms.

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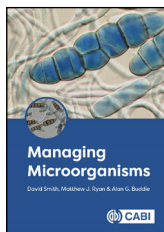
FORTHCOMING

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All basic and applied life science research requires microorganisms as study specimens. *Managing Microorganisms* is the standard reference for anyone who works with microorganisms, primarily bacteria and fungi, but also algae and protozoa, yeasts, animal and human cells etc. It is applicable to researchers who maintain their own collections of strains, and those who use a public service culture collection.

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- best practice guidelines for culture collection management
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Nematodes as Model Organisms**Edited by Itamar Glazer, David I. Shapiro-Ilan and Paul W. Sternberg**

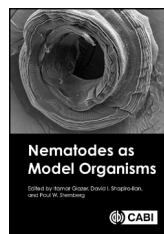
Nematodes are small multicellular organisms that have been used as biological models since the 1960s. For example, *Caenorhabditis elegans* is a free-living nematode worm, about 1mm in length, that lives in temperate soil environments. It is made up of about 1000 cells, and has a short life cycle of only two weeks. It was the first multicellular organism to have its whole genome sequenced.

The book summarizes the importance of nematodes as model organisms in the fields of genetics, developmental biology, neurobiology, pharmacology, nutrition, ecology and parasitology.

Of interest to a broad audience across a wide spectrum of disciplines, this book is useful for biologists working on comparative studies to investigate biological processes across organisms; medical scientists and pharmacologists for exploration of drugs and medicine (including the use of genome editing to eliminate diseases); ecologists considering nematodes as indicators for environment changes; and parasitologists for host-parasite interactions.

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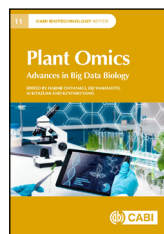
Plant Omics*Advances in Big Data Biology***Edited by Hajime Ohyanagi, Kentaro Yano, Eiji Yamamoto and Ai Kitazumi**

This book provides a comprehensive overview of plant omics and big data in the fields of plant and crop biology. It discusses each omics layer individually, including genomics, transcriptomics, proteomics, and covers model and non-model species. In a section on advanced topics, it considers developments in each specialized domain, including genome editing and enhanced breeding strategies (such as genomic selection and high-throughput phenotyping), with the aim of providing tools to help tackle global food security issues. The importance of online resources in big data biology are highlighted in a section summarizing both wet- and dry-biological portals. This section introduces biological resources, datasets, online bioinformatics tools and approaches that are in the public domain.

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Edward F. Durner

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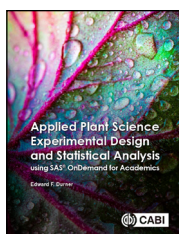
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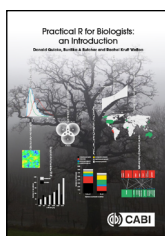
Donald Quicke, Buntika A. Butcher
and Rachel Krufft Welton

This text works through a set of studies that collectively represent almost all the R operations that biology students need in order to analyze their own data. The material is designed to serve students from first year undergraduates through to those beginning post graduate levels.

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