

BURLEIGH DODDS SERIES IN AGRICULTURAL SCIENCE

# Supporting sustainable agriculture through trusted knowledge

climate•SMART•publishing  
IN AGRICULTURAL SCIENCE

## 2024 CATALOGUE



**bd** burleigh dodds  
SCIENCE PUBLISHING

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## About Burleigh Dodds

*“The publishers should be applauded for producing a truly impressive, authoritative, and ever-expanding knowledge compendium on how to improve the world’s food production systems.”*

As we enter our 9<sup>th</sup> year of publishing market-leading content for scientists, researchers and practitioners working in agriculture, we are delighted to bring you our 2024 Catalogue. This year we cover new subjects such as natural capital, biodiversity, smart farms, and insects as alternative sources of protein, plus we continue to build on established topics including Conservation Agriculture, pig breeding and poultry nutrition.

Our book programme will surpass 150 titles this year with contributions from over 4000 agricultural and food production experts across 2500 chapters. This wealth of trusted knowledge continues to provide key benefits for our readers saving them time locating research and bridging the gap between that research and practical application. We hope our publishing enables and empowers you to make a positive impact on sustainable agriculture, climate change and the UN Sustainable Development Goals.

All of us at Burleigh Dodds are looking forward to working with you in 2024 to meet your information needs.

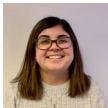
## The Burleigh Dodds Team



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Editorial Director



**Amanda Renwick**  
Commissioning Editor



**Katherine Lister**  
Marketing Executive



**Cara Duttaroy**  
Editorial Assistant

## PHYSIOLOGY & BREEDING



### Developing drought-resistant cereals

NEW

Editor: Professor Roberto Tuberosa, University of Bologna, Italy

This book explores the challenge of achieving improved drought tolerance in key cereal crops such as wheat and barley and reviews key research and strategies which address how to overcome this challenge in order to mitigate the effects of climate change on cereal production.

Print ISBN: 978-1-78676-985-5

eBook ISBN: 978-1-78676-988-6

Pages: 408

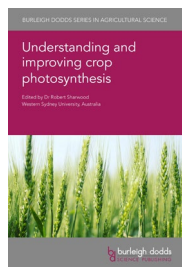
Pub. Date: January 2024

Price: £150/\$195/€180

Series No: 124

### CHAPTER TITLES

**Part 1 Understanding mechanisms of drought tolerance;** 1.What is 'drought stress' and what are options to increase crop yield?; 2.The role of plant hormones in adaptation to drought stress in cereals; 3.Genetics of drought tolerance in cereals; 4.The role of drought-induced proteins in regulating drought tolerance in cereals; **Part 2 Techniques for improving resistance;** 5.Advances in phenotyping to identify drought-resistance traits in cereal roots; 6.Identifying and exploiting genes controlling root system architecture for improving drought tolerance in cereals; 7.Identifying and exploiting photosynthetic genes in improving drought resistance in cereals; 8.Genomic selection, gene editing and genetic engineering for drought tolerance in cereals; 9.Identifying genes for yield-related traits under drought stress conditions in durum wheat; 10.Developing corn hybrids with improved performance under water deficits



### Understanding and improving crop photosynthesis

NEW

Editor: Dr Robert Sharwood, Western Sydney University, Australia

This book reviews the wealth of research on the different ways of improving  $C_3$  photosynthesis in crops and how to use this knowledge to achieve sustainable improvements in yields in the face of climate change.

Print ISBN: 978-1-80146-129-0

eBook ISBN: 978-1-80146-132-0

Pages: 304

Pub. Date: January 2023

Price: £140/\$180/€170

Series No: 130

### CHAPTER TITLES

**Part 1 General;** 1.Understanding the biochemistry of  $C_3$  photosynthesis in crop plants; 2.Understanding the genetics of  $C_3$  photosynthesis in crop plants; **Part 2 Improving photosynthesis: light harvesting;** 3.Interactions between photosynthesis and the circadian system; 4.Modifying photosystem antennas to improve light harvesting for photosynthesis in crops; 5.Relaxing non-photochemical quenching (NPQ) to improve photosynthesis in crops; 6.Modifying mesophyll conductance to optimise photosynthesis in crops; 7.Modifying canopy architecture to optimize photosynthesis in crops; **Part 3 Improving photosynthesis: optimising chloroplast function/light conversion;** 8.Modifying photorespiration to optimize crop performance; 9.Maximizing the efficiency of ribulose biphosphate (RuBP) regeneration to optimize photosynthesis in crops; 10.Improving proteins to optimize photosynthesis

## PHYSIOLOGY & BREEDING



### Advances in seed science and technology for more sustainable crop production

Editors: Dr Julia Buitink, INRAE, France and Professor Olivier Leprince, L'Institut Agro Rennes Angers, France

**This book reviews the key developments in seed phenotyping and seed treatments, and their role in contributing to a more sustainable agriculture.**

Print ISBN: 978-1-78676-917-6

Pub. Date: July 2022

eBook ISBN: 978-1-78676-920-6

Price: £140/\$180/€170

Pages: 368

Series No: 120

### CHAPTER TITLES

**Part 1 Understanding seeds: from biology to the field;** 1.Seed dormancy and germination: a critical update; 2.Understanding the effects of maternal environment in controlling seed dormancy; 3.Applying population-based threshold models to quantify and improve seed quality attributes; 4.Biotic sources of seed losses influencing germination and emergence success in crop plants and agricultural weeds; 5.Advances in understanding the genetic and environmental factors determining seed longevity; **Part 2 Seed quality control and treatment;** 6.Advances in seed phenotyping using X-ray imaging; 7.Advances in testing seed health; 8.Advances in preservation of seed vigour during storage; 9.Enhancing seed defence mechanisms against pathogens; 10.Advances in seed priming techniques



### Advances in plant phenotyping for more sustainable crop production

Editor: Professor Achim Walter, ETH Zurich, Switzerland

**This book reviews the wealth of research on advances in plant phenotyping, including the development of new technologies such as unmanned aerial vehicles.**

Print ISBN: 978-1-78676-856-8

Pub. Date: June 2022

eBook ISBN: 978-1-78676-859-9

Price: £150/\$195/€180

Pages: 404

Series No: 117

### CHAPTER TITLES

**Part 1 The development of phenotyping as a research field;** 1.Origins and drivers of crop phenotyping; 2.The evolution of trait selection in breeding: from seeing to remote sensing; **Part 2 Sensor types;** 3.Advances in optical analysis for crop phenotyping; 4.Advances in the use of thermography in crop phenotyping; 5.Advances in the use of X-ray computed tomography in crop phenotyping; **Part 3 Carrier/delivery systems;** 6.Field robots for plant phenotyping; 7.Advances in the use of aerial systems/UAVs for crop phenotyping as examples for lean, low-cost, high-throughput field crop phenotyping systems; **Part 4 Data analysis;** 8.Meeting computer vision and machine learning challenges in crop phenotyping; 9.Digital phenotyping and genotype-to-phenotype (G2P) models to predict complex traits in cereal crops; 10.The role of crop growth models in crop improvement: integrating phenomics, envirotyping and genomic prediction; **Part 5 Case studies;** 11.Using phenotyping techniques to analyse crop functionality and photosynthesis; 12.Using phenotyping techniques to predict and model grain yield: translating phenotyping into genetic gain; 13.Automated assessment of plant diseases and traits by sensors: how can digital technologies support smart farming and plant breeding?



## Genome editing for precision crop breeding

Editor: Dr Matthew R. Willmann

**This book takes stock of the wealth of research on current genome editing techniques, such as TALENS, zinc finger nucleases and Cas9 constructs, and their potential in crop breeding.**

Print ISBN: 978-1-78676-447-8

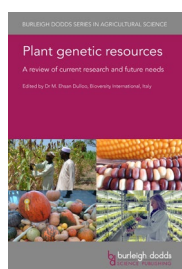
eBook ISBN: 978-1-78676-450-8

Pages: 494

Pub. Date: April 2021

Price: £150/\$195/€180

Series No: 97



## Plant genetic resources

**A review of current research and future needs**

Editor: Dr M. Ehsan Dulloo

**This book considers how a more integrated, global approach to protecting and leveraging plant genetic diversity is required to achieve a more sustainable agriculture.**

Print ISBN: 978-1-78676-451-5

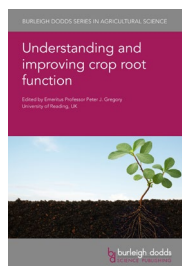
eBook ISBN: 978-1-78676-454-6

Pages: 352

Pub. Date: March 2021

Price: £160/\$210/€190

Series No: 100



## Understanding and improving crop root function

Editor: Emeritus Professor Peter J. Gregory

**This book discusses the responses of plant roots to abiotic and biotic stresses and how understanding nutrient uptake can be exploited to optimise root function.**

Print ISBN: 978-1-78676-360-0

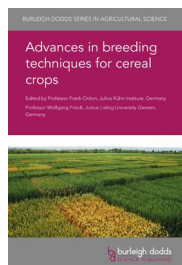
eBook ISBN: 978-1-78676-363-1

Pages: 686

Pub. Date: January 2021

Price: £180/\$235/€215

Series No: 90



## Advances in breeding techniques for cereal crops

Editors: Professor Frank Ordon and Professor Wolfgang Friedt

**This book provides reviews recent advances in breeding techniques for cereals such as wheat, barley, maize and rye. It looks at advances in exploiting genetic diversity, the use of doubled haploids and hybrid breeding.**

Print ISBN: 978-1-78676-244-3

eBook ISBN: 978-1-78676-247-4

Pages: 612

Pub. Date: June 2019

Price: £190/\$245/€230

Series No: 60

## INSECT PEST MANAGEMENT



### Advances in biocontrol of crop insect pests

NEW

Editors: Professor Travis Glare, Lincoln University, New Zealand and Professor Johannes Jehle, Institute of Biological Control - Federal Research Centre for Cultivated Plants (JKI), Germany

**This book reviews some of the key developments in the creation of new sustainable solutions to manage crop insect pests.**

Print ISBN: 978-1-80146-839-8  
Pub. Date: November 2024

eBook ISBN: 978-1-80146-841-1  
Price: £150/\$195/€180

Pages: 400  
Series No: 164

### CHAPTER TITLES

**Part 1 Disrupting insect pest behaviour;** 1. Understanding and exploiting the ways insect pests identify and colonise host plants for improved integrated pest management: an overview; 2. Developments in the use of semiochemicals for mating disruption in insect pest control; 3. Acoustic techniques to disrupt insect pest behaviour; 4. Genetic engineering of insects to inhibit insect pest reproduction; **Part 2 Novel biocontrol agents;** 5. Developing plant-based insect biocontrol agents; 6. Developments in neuropeptide-based biocontrol agents to manage insect pests; 7. Using gene silencing (RNA interference) techniques to produce safe insecticidal compounds (RNA-based biocontrol compounds); 8. Key issues in formulation of biocontrol agents for plant protection; 9. Developments in application technologies for biocontrol agents for pest control; 10. Improving regulation of biocontrol agents for insect pests; 11. Challenges in commercialising new biocontrol products for controlling insect pests; **Part 3 Improving plant defences against insect attack;** 12. Understanding plant defences against pest attack; 13. Advances in breeding insect pest-resistant crops



### Advances in understanding insect pests affecting wheat and other cereals

NEW

Editors: Professor Sanford D. Eigenbrode, University of Idaho, USA and Dr Arash Rashed, Virginia Tech, USA

**This book discusses recent developments in fundamental and applied research on major pests and shows how better understanding of these pests can be used to improve integrated pest management strategies.**

Print ISBN: 978-1-80146-113-9  
Pub. Date: May 2023

eBook ISBN: 978-1-80146-116-0  
Price: £150/\$195/€180

Pages: 478  
Series No: 129

### CHAPTER TITLES

**Part 1 Foliar feeding pests;** 1. Cereal leaf beetle (*Oulema melanopus*); 2. Grasshoppers and other orthopteran pests; **Part 2 Gall midges and stem feeding pests;** 3. The Hessian fly: a destructive pest of wheat and barley; 4. Wheat midge (*Sitodiplosis mosellana*): management in the Northern Great Plains of the United States and Canada; 5. Wheat stem sawfly (*Cephus cinctus* Norton); **Part 3 Phloem feeding pests, mites and root feeding pests;** 6. Russian wheat aphid (*Diuraphis noxia*): an overview; 7. Greenbug (*Schizaphis graminum*): an overview; 8. Greenbug-wheat interactions, pest management and host resistance; 9. Fescue aphid (*Metopolophium festucae*); 10. The English grain aphid *Sitobion avenae*; 11. Wheat curl mite ecology and epidemiology of its associated wheat viruses; 12. Advances in managing wireworms in cereal crops: challenges and future directions; **Part 4 Emerging issues;** 13. Recent invasions of insect pests of wheat and sorghum; 14. Biotechnology for wheat crop protection: potential and challenges; 15. Online decision support systems, remote sensing and artificial intelligence applications for wheat pest management





## Advances in monitoring of native and invasive insect pests of crops

NEW

Editors: Dr Michelle Fountain, NIAB-EMR, UK and Dr Tom Pope, Harper Adams University, UK

**This book reviews recent research on the techniques used to monitor and prevent threats from native and invasive insect pests, including recent advances in areas such as sampling, identifying and modelling pest populations.**

Print ISBN: 978-1-80146-107-8

eBook ISBN: 978-1-80146-110-8

Pages: 394

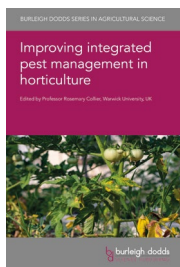
Pub. Date: April 2023

Price: £140/\$180/€170

Series No: 128

### CHAPTER TITLES

**Part 1 Detection;** 1.Advances in techniques for trapping crop insect pests; 2.Advances and challenges in monitoring insect pests of major field crops in the United States; 3.Quantifying captures from insect pest trap networks; 4.Developments in crop insect pest detection techniques; 5.Monitoring airborne movement of crop insect pests and beneficials; **Part 2 Identification, modelling and risk assessment;** 6.Advances in image-based identification and analysis of crop insect pests; 7.Advances in insect pest monitoring using pest population growth and geospatial data for pest risk assessment; 8.Advances in pest risk assessment techniques focusing on invertebrate pests of European outdoor crops; **Part 3 Invasive species;** 9.Assessing the potential economic impact of invasive plant pests; 10.Developing effective phytosanitary measures to prevent the introduction of invasive insect pests; 11.Mitigating invasive insect species: eradication, long-term management, and the importance of sampling and monitoring



## Improving integrated pest management in horticulture

Editor: Professor Rosemary Collier

**This book reviews current advances in integrated pest management for horticultural crops, including the use of biological control mechanisms, technological developments, agronomic practices and physical control.**

Print ISBN: 978-1-78676-753-0

eBook ISBN: 978-1-78676-756-1

Pages: 486

Pub. Date: March 2022

Price: £150/\$195/€180

Series No: 110



## Biopesticides for sustainable agriculture

Editors: Professor Nick Birch and Professor Travis Glare

**There has been an increasing interest in developing alternative biopesticides to control insects and other pests. This book reviews recent research on identifying, developing, assessing and improving the growing range of biopesticides.**

Print ISBN: 978-1-78676-356-3

eBook ISBN: 978-1-78676-359-4

Pages: 366

Pub. Date: March 2020

Price: £150/\$195/€180

Series No: 89

## INSECT PEST MANAGEMENT



### Integrated management of insect pests

#### Current and future developments

Editors: Emeritus Professor Marcos Kogan and Emeritus Professor E. A. Heinrichs

**This volume discusses advances in understanding species and landscape ecology on which integrated pest management is founded.**

Print ISBN: 978-1-78676-260-3

eBook ISBN: 978-1-78676-263-4

Pages: 1004

Pub. Date: October 2019

Price: £190/\$245/€230

Series No: 69



### Integrated management of diseases and insect pests of tree fruit

Editors: Professor Xiangming Xu and Dr Michelle Fountain

**This book reviews advances in understanding key diseases and insect pests of tree fruit and shows how this understanding can be used to improve integrated disease and pest management techniques.**

Print ISBN: 978-1-78676-256-6

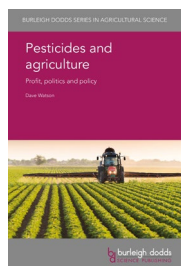
eBook ISBN: 978-1-78676-259-7

Pages: 748

Pub. Date: September 2019

Price: £190/\$245/€230

Series No: 68



### Pesticides and agriculture

#### Profit, politics and policy

Author: Dave Watson

**This book provides an account of the development of the modern pesticides industry in the context of broader developments in global agriculture.**

Print ISBN: 978-1-78676-276-4

eBook ISBN: 978-1-78676-279-5

Pages: 418

Pub. Date: August 2018

Price: £170/\$220/€205

Series No: 67



### Rice insect pests and their management

Authors: E. A. Heinrichs, Francis E. Nwilene, Michael J. Stout, Buyung A. R. Hadi and Thais Freitas

**This book uses the unique expertise of leading rice entomologists to provide the first global coverage of rice insect pests.**

Print ISBN: 978-1-78676-196-5

eBook ISBN: 978-1-78676-199-6

Pages: 292

Pub. Date: June 2017

Price: £180/\$235/€215

Series No: 50



## CROP DISEASE MANAGEMENT



### Understanding and minimising fungicide resistance

NEW

Editor: Dr Francisco J. Lopez-Ruiz, Curtin University, Australia

**This book provides an authoritative review on the wealth of research on understanding the development of fungicide resistance in agricultural crops and the establishment of preventative measures which can be implemented to limit its spread and the consequent impact of disease on yields.**

Print ISBN: 978-1-80146-198-6

eBook ISBN: 978-1-80146-201-3

Pages: 420

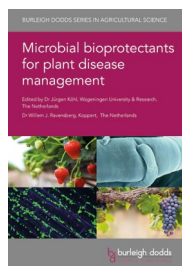
Pub. Date: September 2023

Price: £150/\$195/€180

Series No: 132

### CHAPTER TITLES

**Part 1 Understanding and managing resistance;** 1.How pathogens develop resistance to fungicides: an overview; 2.Molecular evolution and mechanisms of fungicide resistance in plant pathogenic fungi; 3.Tracking the development of fungicide resistance; 4.Crop disease control efficacy and selection for resistance: two sides of the same coin?; 5.Fungicide resistance risk assessment; 6.Good practice in minimising the development of fungicide resistance in crop pathogens; 7.Fungicide resistance: Evolutionary questions and practical implications; 8.The role of Extension in fungicide resistance management; 9.Key challenges in developing new fungicides; **Part 2 Case studies: resistance in key groups of fungicides;** 10.Understanding resistance to sterol biosynthesis inhibitor fungicides; 11.Quinone outside inhibitor fungicide resistance: selection patterns and the current situation; 12.Understanding resistance to succinate dehydrogenase inhibitor fungicides; 13.Understanding resistance to Anilinopyrimidine fungicides; 14.Understanding resistance to oxysterol binding protein inhibitor fungicides



### Microbial bioprotectants for plant disease management

Editors: Dr Jürgen Köhl and Dr Willem J. Ravensberg

**This book considers the recent advances in the development of more ecologically balanced biological methods to control plant diseases, as well as the issues that can arise as a result of their development and use.**

Print ISBN: 978-1-78676-813-1

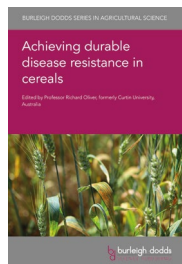
eBook ISBN: 978-1-78676-816-2

Pages: 734

Pub. Date: November 2021

Price: £150/\$195/€180

Series No: 108



### Achieving durable disease resistance in cereals

Editor: Professor Richard Oliver

**This book reviews advances in the key areas required to achieve durable disease resistance in cereal crops, from advances in understanding pathogen biology/epidemiology to identifying sources of resistance.**

Print ISBN: 978-1-78676-601-4

eBook ISBN: 978-1-78676-604-5

Pages: 970

Pub. Date: October 2021

Price: £180/\$235/€215

Series No: 106

## CROP DISEASE MANAGEMENT



### Integrated management of diseases and insect pests of tree fruit

Editors: Professor Xiangming Xu and Dr Michelle Fountain

**This book reviews advances in understanding key diseases and insect pests of tree fruit and shows how this understanding can be used to improve integrated disease and pest management techniques.**

Print ISBN: 978-1-78676-256-6

eBook ISBN: 978-1-78676-259-7

Pages: 748

Pub. Date: September 2019

Price: £190/\$245/€230

Series No: 68

### See what others are saying about this book:

**"This volume provides extensive reviews of advances in research information on key diseases and insect pests, and mites, affecting tree fruit. Each of the 22 chapters is compiled by distinguished international experts in their field of research. In conclusion, this extremely comprehensive, accurate, and useful volume of reviews is recommended as an important reference for professionals and students alike..."**

*(Book Review Published in ISHS - Chronica Horticulturae)*



### Critical issues in plant health

#### 50 years of research in African agriculture

Editors: Dr Peter Neuenschwander and Dr Manuele Tamò

**This book summarises 50 years of research on plant health by the International Institute of Tropical Agriculture to improve the health of crops in Africa.**

Print ISBN: 978-1-78676-232-0

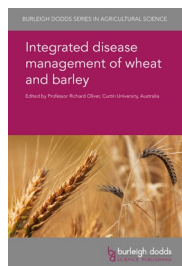
eBook ISBN: 978-1-78676-235-1

Pages: 492

Pub. Date: February 2019

Price: £170/\$220/€205

Series No: 58



### Integrated disease management of wheat and barley

Editor: Professor Richard Oliver

**This book reviews the latest research on understanding the main fungal diseases of cereals and the key challenges in integrated disease management of wheat and barley.**

Print ISBN: 978-1-78676-216-0

eBook ISBN: 978-1-78676-219-1

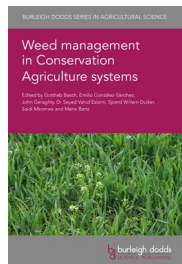
Pages: 366

Pub. Date: October 2018

Price: £170/\$220/€205

Series No: 19

## WEED MANAGEMENT



### Weed management in Conservation Agriculture systems

NEW

Editors: Gottlieb Basch, Emilio González-Sánchez, John Geraghty, Seyed Vahid Eslami, Sjoerd Willem Duiker, Saidi Mkomwa and Marie Bartz

**This book provides a comprehensive overview of the recent research on ways to optimise weed management in Conservation Agriculture systems without reliance on herbicides such as glyphosate.**

Print ISBN: 978-1-80146-784-1

eBook ISBN: 978-1-80146-786-5

Pages: 400

Pub. Date: December 2024

Price: £150/\$195/€180

Series No: 160

#### CHAPTER TITLES

1. Weed ecology in Conservation Agriculture systems: an overview; 2. Modelling weed dynamics in Conservation Agriculture systems; **Part 1 Cultural and physical weed management techniques**; 3. Cultural techniques to control weeds in Conservation Agriculture systems; 4. The use of allelopathy in weed control in Conservation Agriculture systems; 5. Roller crimping of cover crops for weed suppression in Conservation Agriculture systems; 6. Advances in mechanical weeding technologies for Conservation Agriculture conditions; 7. Thermal weed control in Conservation Agriculture systems; **Part 2 Chemical and biological weed management techniques**; 8. State-of-the-art of the use of herbicides in Conservation Agriculture systems; 9. Advances in the reduction of herbicide use in Conservation Agriculture systems; 10. Biological control of weeds in Conservation Agriculture systems; **Part 3 Weed management in specific production systems**; 11. Weed management in perennial Conservation Agriculture systems; 12. Weed management in horticultural Conservation Agriculture systems; 13. Weed management in organic Conservation Agriculture systems; 14. Weed management in Conservation Agriculture-based integrated crop production systems; **Part 4 Practitioners' views**; 15. Farmers' testimonies on weed management in Conservation Agriculture systems



### Advances in integrated weed management

Editor: Professor Per Kudsk

**This book explores recent developments in integrated weed management that embrace a more holistic, landscape-based agroecological approach, including the application of technology to allow more informed decision-making and more targeted solutions.**

Print ISBN: 978-1-78676-745-5

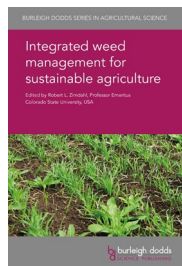
eBook ISBN: 978-1-78676-748-6

Pages: 452

Pub. Date: April 2022

Price: £150/\$195/€180

Series No: 113



### Integrated weed management for sustainable agriculture

Editor: Professor Emeritus Robert L. Zimdahl

**Weeds remain a major obstacle to improved yields in agriculture. This volume reviews key developments in integrated weed management to manage weeds more sustainably throughout agricultural production.**

Print ISBN: 978-1-78676-164-4

eBook ISBN: 978-1-78676-167-5

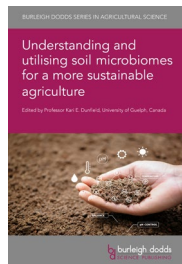
Pages: 476

Pub. Date: December 2017

Price: £190/\$245/€230

Series No: 42

## SOIL HEALTH



### Understanding and utilising soil microbiomes for a more sustainable agriculture

NEW

Editor: Professor Kari E. Dunfield, University of Guelph, Canada

**This book summarises the wealth of recent research in understanding the fundamental importance of soil microbiomes in optimising soil and crop health, as well as how they can be enhanced to deliver a range of ecosystem services.**

Print ISBN: 978-1-80146-474-1

eBook ISBN: 978-1-80146-476-5

Pages: 400

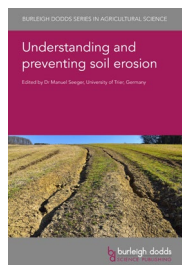
Pub. Date: June 2024

Price: £150/\$195/€180

Series No: 151

#### CHAPTER TITLES

**Part 1 Advances in analysing soil microbiomes;** 1.Advances in viromics for analysing soil microorganisms; 2.Advances in metaproteomics for analysing soil microorganisms; **Part 2 Understanding communities within the soil microbiome;** 3.Advances in understanding methanogens and methanotrophs in soil; 4.Emerging roles for soil Bacteroidetes in complex carbon and organic phosphorus cycling; 5.Advances in understanding actinobacteria in soil; 6.Advances in understanding mycorrhizae in soil; **Part 3 Analysing structure and dynamics of soil microbiomes;** 7.Advances in understanding microbial communities in the rhizosphere; 8.Assessing microbial interactions with microfauna; 9.Nematodes and their trophic interactions in the soil microbiome; 10.Advances in understanding soil microbiomes in ecosystem functioning across trophic chains; **Part 4 Soil microbiomes and ecosystem services;** 11.Advances in understanding the role of soil microbiomes in carbon cycling; 12.Advances in understanding the role of soil microbiomes in nutrient cycling; 13.Advances in understanding the role of soil microbiomes in protecting plants from pathogens; 14.Advances in understanding the role of soil microbiomes in promoting crop resistance to abiotic stress...(To view the full table of contents for this title visit our website.)



### Understanding and preventing soil erosion

NEW

Editor: Dr Manuel Seeger, University of Trier, Germany

**This book reviews the range of research on understanding the mechanisms of soil erosion, as well as advances in techniques for measuring erosion. It also addresses recent developments in mitigation strategies to reduce soil erosion such as zero/no-tillage, buffer strips and soil stabilisers.**

Print ISBN: 978-1-80146-379-9

eBook ISBN: 978-1-80146-381-2

Pages: 350

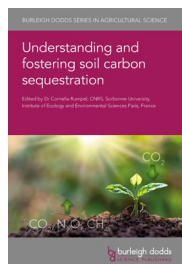
Pub. Date: May 2024

Price: £145/\$190/€175

Series No: 146

#### CHAPTER TITLES

**Part 1 Mechanisms;** 1.Advances in understanding soil erodibility; 2.Advances in understanding water-based soil erosion processes; 3.Assessing the impact of tillage practices on soil erosion; 4.Assessing the impact of climate change on soil erosion; **Part 2 Measuring soil erosion;** 5.Advances in proximal instrumental techniques for measuring soil erosion; 6.Advances in tracking sediment transport from agricultural soils; 7.Advances in modelling soil erosion risk; **Part 3 Mitigating soil erosion;** 8.Using cropping systems to reduce soil erosion; 9.Assessing the effectiveness of buffer strips in preventing wind/water-based soil erosion and its effects; 10.The effects of zero/conservation tillage practices in preventing soil erosion; 11.The use of soil stabilisers to prevent erosion



## Understanding and fostering soil carbon sequestration

Editor: Dr Cornelia Rumpel, CNRS, Sorbonne University, Institute of Ecology and Environmental Sciences Paris, France

**This book reviews recent research on important aspects of soil carbon sequestration in different environments and soil types and its contribution to ensuring a positive carbon budget at the farm and landscape level.**

Print ISBN: 978-1-78676-969-5

eBook ISBN: 978-1-78676-972-5

Pages: 914

Pub. Date: November 2022

Price: £170/\$220/€205

Series No: 121

### CHAPTER TITLES

1.Introduction: soil carbon sequestration – a process linking soils to humanity; **Part 1 Understanding carbon sequestration in soils**; 2.Mechanisms of soil organic carbon sequestration and implications for management; 3.Plant influences on soil organic carbon dynamics; 4.Biological basis of soil organic carbon sequestration: a complex set of interactive processes; 5.Understanding soil organic carbon dynamics at larger scales; 6.Benefits and trade-offs of soil organic carbon sequestration; 7.Soil inorganic carbon: stocks, functions, losses and their consequences; 8.Soil organic carbon sequestration and climate change; 9.Innovative agriculture management to foster soil organic carbon sequestration; **Part 2 Measuring carbon sequestration in soils**; 10.Measuring and monitoring soil carbon sequestration; 11.Advances in measuring soil organic carbon stocks and dynamics at the profile scale; 12.Advances in digital soil mapping to assess baseline levels and carbon sequestration at the landscape scale; 13.Modeling soil organic carbon dynamics, carbon sequestration and the climate benefit of sequestration; 14.Digital tools for assessing soil organic carbon at farm and regional scale; **Part 3 Fostering carbon sequestration in soils**; 15.Promoting carbon sequestration in soils: the importance of soil, region and context-specific interventions...(To view the full table of contents for this title visit our website.)



## Improving soil health

Editor: Professor William R. Horwath, University of California-Davis, USA

**This book summarises current research on the effects of different management strategies on the physical, chemical and biological properties of soils. It assesses the viability of these management strategies as a means for improving crop yield, ecosystem productivity and soil health in general.**

Print ISBN: 978-1-78676-670-0

eBook ISBN: 978-1-78676-673-1

Pages: 470

Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 109

### CHAPTER TITLES

1.Soil health: towards a sustainable world; **Part 1 Dimensions of soil health**; 2.Soil health: definitions, history, key concepts and hurdles; 3.Understanding biological processes in soil; 4.Mycorrhizae and soil health; **Part 2 Cultivation practices and soil health**; 5.Agricultural traffic management systems and soil health; 6.Assessing the effects of no-till cultivation practices on soil health; 7.Cover crops for soil health; 8.Assessing the effects of crop residue retention on soil health; **Part 3 The role of organic and other soil amendments**; 9.Assessing the effects of compost on soil health; 10.Assessing the effects of using animal manure on soil health; 11.Assessing the effect of biosolids on soil health; 12.Biofertilizers: assessing the effects of arbuscular mycorrhizal fungi on soil health; 13.Biofertilizers: assessing the effects of plant growth-promoting bacteria (PGPB) or rhizobacteria (PGPR) on soil and plant health; 14.The role of liming in improving soil health

## SOIL HEALTH



### Advances in measuring soil health

Editor: Professor Wilfred Otten, Cranfield University, UK

**This volume reviews the wealth of research on developing better analytical techniques to measure the biological, physical and chemical properties of soils. It also surveys developments in measuring soil physical properties through advances in visual, imaging and geophysical techniques.**

Print ISBN: 978-1-78676-426-3

eBook ISBN: 978-1-78676-429-4

Pages: 382

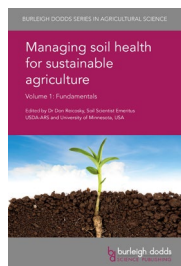
Pub. Date: June 2021

Price: £180/\$235/€215

Series No: 92

### CHAPTER TITLES

**Part 1 Measuring soil biological activity;** 1.Assessing soil health by measuring fauna; 2.Quantifying earthworm community structures as indicators of soil health; 3.Characterisation of fungal communities and functions in agricultural soils; **Part 2 Measuring soil physical and chemical properties;** 4.Advances in visual soil evaluation techniques; 5.Imaging soil structure to measure soil functions and soil health with X-ray computed micro-tomography; 6.Geophysical methods to assess soil characteristics; 7.Advances in techniques to assess soil erodibility; 8.Advances in measuring mechanical properties of soil in relation to soil health; 9.Advances in near-infrared (NIR) spectroscopy to assess soil health; 10.Spectral mapping of soil organic carbon; **Part 3 From measurement to management;** 11.Developing soil health indicators for improved soil management on farm; 12.Developing decision support systems (DSS) for farm soil and crop management



### Managing soil health for sustainable agriculture – Volume 1 Fundamentals

Editor: Dr Don Reicosky

**This volume reviews advances in our understanding of soil structure and dynamics which form the foundation for effective soil management.**

Print ISBN: 978-1-78676-188-0

eBook ISBN: 978-1-78676-191-0

Pages: 352

Pub. Date: August 2018

Price: £160/\$210/€190

Series No: 48



### Managing soil health for sustainable agriculture – Volume 2 Monitoring and management

Editor: Dr Don Reicosky

**This second volume reviews ways of classifying and measuring soils and their properties, as well as how soil health can be maintained or enhanced.**

Print ISBN: 978-1-78676-192-7

eBook ISBN: 978-1-78676-195-8

Pages: 462

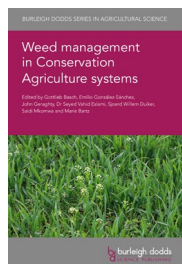
Pub. Date: August 2018

Price: £180/\$235/€215

Series No: 49



## CONSERVATION AGRICULTURE



### Weed management in Conservation Agriculture systems

NEW

Editors: Gottlieb Basch, Emilio González-Sánchez, John Geraghty, Seyed Vahid Eslami, Sjoerd Willem Duiker, Saidi Mkomwa and Marie Bartz

**This book provides a comprehensive overview of the recent research on ways to optimise weed management in Conservation Agriculture systems without reliance on herbicides such as glyphosate.**

Print ISBN: 978-1-80146-784-1

eBook ISBN: 978-1-80146-786-5

Pages: 400

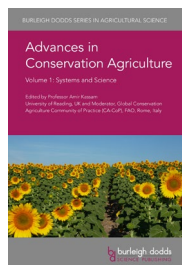
Pub. Date: December 2024

Price: £150/\$195/€180

Series No: 160

### CHAPTER TITLES

1. Weed ecology in Conservation Agriculture systems: an overview; 2. Modelling weed dynamics in Conservation Agriculture systems; **Part 1 Cultural and physical weed management techniques**; 3. Cultural techniques to control weeds in Conservation Agriculture systems; 4. The use of allelopathy in weed control in Conservation Agriculture systems; 5. Roller crimping of cover crops for weed suppression in Conservation Agriculture systems; 6. Advances in mechanical weeding technologies for Conservation Agriculture conditions; 7. Thermal weed control in Conservation Agriculture systems; **Part 2 Chemical and biological weed management techniques**; 8. State-of-the-art of the use of herbicides in Conservation Agriculture systems; 9. Advances in the reduction of herbicide use in Conservation Agriculture systems; 10. Biological control of weeds in Conservation Agriculture systems; **Part 3 Weed management in specific production systems**; 11. Weed management in perennial Conservation Agriculture systems; 12. Weed management in horticultural Conservation Agriculture systems; 13. Weed management in organic Conservation Agriculture systems; 14. Weed management in Conservation Agriculture-based integrated crop production systems; **Part 4 Practitioners' views**; 15. Farmers' testimonies on weed management in Conservation Agriculture systems



### Advances in Conservation Agriculture – Volume 1 Systems and Science

Editor: Professor Amir Kassam, University of Reading, UK and Moderator, Global Conservation Agriculture Community of Practice (CA-CoP), FAO, Rome, Italy

**This volume summarises research on key components for successful Conservation Agriculture including no-till techniques, soil cover and cropping systems.**

Print ISBN: 978-1-78676-264-1

eBook ISBN: 978-1-78676-267-2

Pages: 602

Pub. Date: January 2020

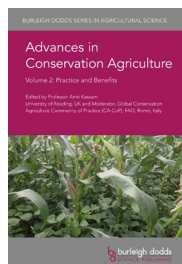
Price: £150/\$195/€180

Series No: 61

### CHAPTER TITLES

1. The need for Conservation Agriculture; 2. Development of Conservation Agriculture systems globally; 3. Conservation Agriculture Systems: soil health and landscape management; 4. The role of no or minimum mechanical soil disturbance in Conservation Agriculture systems; 5. The role and management of soil mulch and cover crops in Conservation Agriculture systems; 6. The role of crop and cropping system management in Conservation Agriculture systems; 7. Management of vegetable Conservation Agriculture systems; 8. Managing perennial Conservation Agriculture systems: orchards, plantations and agroforestry; 9. Integration of crop-livestock in Conservation Agriculture systems; 10. Status of mechanization in Conservation Agriculture systems; 11. Certification schemes for Conservation Agriculture systems; 12. Institutional and policy support for Conservation Agriculture uptake

## CONSERVATION AGRICULTURE



### Advances in Conservation Agriculture – Volume 2 Practice and Benefits

Editor: Professor Amir Kassam, University of Reading, UK and Moderator, Global Conservation Agriculture Community of Practice (CA-CoP), FAO, Rome, Italy

**The second volume summarises current research on optimising Conservation Agriculture system practices and their ecological, economic and social benefits.**

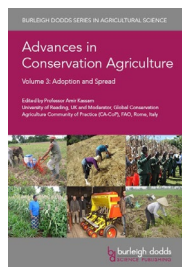
Print ISBN: 978-1-78676-268-9  
Pub. Date: January 2020

eBook ISBN: 978-1-78676-271-9  
Price: £150/\$195/€180

Pages: 498  
Series No: 62

#### CHAPTER TITLES

1.Practice and benefits of Conservation Agriculture systems; 2.Crop and cropping systems management practices and benefits in Conservation Agriculture systems; 3.Soil management practices and benefits in Conservation Agriculture systems; 4.Weed management practices and benefits in Conservation Agriculture systems; 5.Insect pest and disease management practices and benefits in Conservation Agriculture systems: a case of push–pull practice; 6.Nutrient management practices and benefits in Conservation Agriculture systems; 7.Carbon management practices and benefits in Conservation Agriculture systems: Carbon sequestration rates; 8.Carbon management practices and benefits in Conservation Agriculture systems: soil organic carbon fraction losses and restoration; 9.Biodiversity management practices and benefits in Conservation Agriculture systems; 10.Conservation Agriculture: climate change mitigation and adaptation benefits; 11.Benefits of Conservation Agriculture to farmers and society; 12.Social benefits of Conservation Agriculture systems; 13.Harnessing ecosystem services with Conservation Agriculture; 14.Rehabilitating degraded and abandoned agricultural lands with Conservation Agriculture systems



### Advances in Conservation Agriculture – Volume 3 Adoption and Spread

Editor: Professor Amir Kassam, University of Reading, UK and Moderator, Global Conservation Agriculture Community of Practice (CA-CoP), FAO, Rome, Italy

**Following on from previous volumes, Volume 3 reviews the adoption and spread of Conservation Agriculture in different regions around the world.**

Print ISBN: 978-1-78676-475-1  
Pub. Date: February 2022

eBook ISBN: 978-1-78676-478-2  
Price: £150/\$195/€180

Pages: 672  
Series No: 104

#### CHAPTER TITLES

1.State of the global adoption and spread of Conservation Agriculture; 2.Conservation Agriculture in West and Central Canada: an integrated review of adoption; 3.Conservation Agriculture in the USA; 4.Conservation Agriculture in Central America, the Caribbean and Mexico; 5.Conservation Agriculture in South America; 6.Conservation Agriculture in the agri-environmental European context; 7.Adoption and spread of Conservation Agriculture in North Africa; 8.Conservation Agriculture in West and Central Africa; 9.Conservation Agriculture in Eastern and Southern Africa; 10.From theory to practice: key lessons in the adoption of Conservation Agriculture in South Africa; 11.Conservation Agriculture in West Asia; 12.Adoption of Conservation Agriculture in Central Asia; 13.Conservation Agriculture in Eurasia; 14.Conservation Agriculture in South Asia; 15.Conservation Agriculture in Southeast Asia; 16.Adoption and spread of Conservation Agriculture in East Asia; 17.Conservation Agriculture in Australian dryland cropping and in New Zealand: the lessons of 70 years

## CROP NUTRITION



### Improving nitrogen use efficiency

NEW

Editor: Adjunct Professor Jagdish Kumar Ladha, University of California-Davis, USA

**This book reviews the wealth of research on ways of improving nitrogen use efficiency in crop production as a means of reducing the agricultural sector's environmental impact and rebalancing the global nitrogen cycle.**

Print ISBN: 978-1-80146-470-3

eBook ISBN: 978-1-80146-472-7

Pages: 400

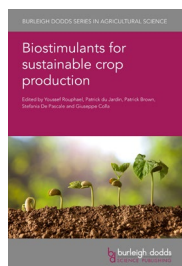
Pub. Date: February 2024

Price: £145/\$190/€175

Series No: 150

### CHAPTER TITLES

**Part 1 Understanding nitrogen cycling in crop production;** 1.Advances in understanding nitrogen cycling in soil; 2.Advances in understanding crop plant growth and nitrogen use efficiency; 3.Challenges and opportunities in breeding for improving nitrogen use efficiency in crops; 4.A new paradigm for improving the effective use of nitrogen (N) on major field crops; **Part 2 Monitoring and optimising nitrogen use;** 5.Developments in proximal sensors to detect crop nitrogen status; 6.Matching/synchronising nitrogen fertiliser application to crop nitrogen needs; 7.Developments in the use of enhanced efficiency nitrogen fertilisers including new generation of fertilisers; 8.Assessing the effectiveness of sub-surface/deep banding nitrogen fertiliser application; 9.Advances in modelling/decision support systems for optimising nitrogen fertiliser application; 10.Economic perspectives on nitrogen in cropping systems; **Part 3 Organic sources of nitrogen;** 11.Optimising livestock manure as a source of nitrogen and other nutrients; 12.Improving soil management to optimise nitrogen use efficiency; 13.Optimising cover crops and intercrops as a source of nitrogen; 14.The role of rotations and/or break crops in optimising nitrogen use efficiency



### Biostimulants for sustainable crop production

Editors: Youssef Rouphael, Patrick du Jardin, Patrick Brown, Stefania De Pascale and Giuseppe Colla

**This book reviews key advances in understanding and using the major groups of biostimulants, such as humic substances and seaweed extracts.**

Print ISBN: 978-1-78676-336-5

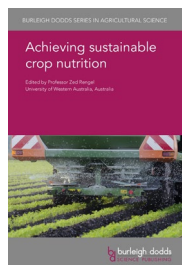
eBook ISBN: 978-1-78676-339-6

Pages: 386

Pub. Date: July 2020

Price: £150/\$195/€180

Series No: 84



### Achieving sustainable crop nutrition

Editor: Professor Zed Rengel

**This book reviews current research on understanding nutrient cycles, the ways crops process nutrients, the environmental effects of fertiliser use and how this understanding can be used to improve nutrient use efficiency.**

Print ISBN: 978-1-78676-312-9

eBook ISBN: 978-1-78676-315-0

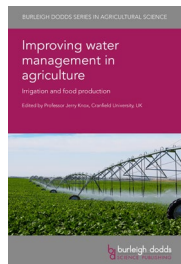
Pages: 830

Pub. Date: February 2020

Price: £190/\$245/€230

Series No: 76

## WATER MANAGEMENT



### Improving water management in agriculture Irrigation and food production

NEW

Editor: Professor Jerry Knox, Cranfield University, UK

This book considers current challenges facing irrigated agriculture and reviews the wealth of research on the range of interventions which can be applied to address these challenges.

Print ISBN: 978-1-80146-274-7

eBook ISBN: 978-1-80146-276-1

Pages: 400

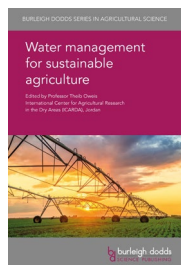
Pub. Date: April 2024

Price: £150/\$195/€180

Series No: 138

#### CHAPTER TITLES

**Part 1 Water for agriculture: externalities, drivers for change and future demands;** 1.Introduction: improving water management in agriculture; 2.Forecasting future water use in agriculture; 3.Monitoring agricultural water use, data challenges and potential solutions for sustainable water management; **Part 2 Managing water for agriculture;** 4.Agronomic practices to optimise soil water retention; 5.Advances in drainage design and management for irrigated agriculture; 6.Tracking plant water abiotic stresses and signalling for irrigated horticulture; 7.Managing energy demands in irrigated agriculture; 8.Solar powered irrigation: current developments and future uptake; 9.PRECIMED: development of a DSS for precision irrigation in Mediterranean agriculture; **Part 3 Securing water resources for agriculture: diversification and collaboration;** 10.Advances in farmer-led irrigation development in Africa; 11.Improving water use in agriculture to reduce environmental impact: the irrigation efficiency paradox; 12.Developments in water sharing and water trading to secure supplies for agriculture; 13.Irrigation modernization in India; **Part 4 Reducing the environmental impacts of irrigation;** 14.Managing climate change, droughts and water scarcity affecting agriculture; 15.Integrating biophysical and ballistic models to assess the agronomic and environmental impacts of precision irrigation; 16.Water-energy-food nexus (WEF)



### Water management for sustainable agriculture

Editor: Professor Theib Oweis, International Centre for Agricultural Research in the Dry Areas (ICARDA), Jordan

This volume reviews research into topics such as more sustainable use of groundwater, more efficient irrigation techniques and water management.

Print ISBN: 978-1-78676-176-7

eBook ISBN: 978-1-78676-179-8

Pages: 612

Pub. Date: July 2018

Price: £190/\$245/€230

Series No: 45

#### CHAPTER TITLES

**Part 1 Fundamentals;** 1.Understanding and measuring plant water use; 2.Dynamics of water storage and retention in soil; 3.Climate change and water resources for agriculture; **Part 2 Sustainable use of groundwater and surface water for irrigation;** 4.An integrated approach for the estimation of crop water requirements based on soil, plant and atmospheric measurements; 5.The economics of groundwater development and governance; 6.Managing surface water for irrigation; **Part 3 Other sources of water for irrigation;** 7.Rainwater and floodwater harvesting for crop irrigation; 8.The use of treated wastewater for crop irrigation; 9.Use of brackish and marginal water for irrigation in water-scarce areas; **Part 4 Irrigation techniques;** 10.Developments in surface irrigation techniques; 11.Trickle irrigation systems; 12.An overview of subsurface irrigation techniques; 13.Fertigation techniques for efficient water and nutrient use in agriculture; **Part 5 Managing water use on the farm;** 14.Modelling water use on farms; 15.Improving water productivity in rainfed agriculture: challenges and opportunities for small-scale farmers in dry lands; 16.Improving water use in tropical rain-fed systems: the situation in India; 17.Deficit irrigation and site-specific irrigation scheduling techniques to minimize water use; 18.Drainage systems to support sustainable water use; **Part 6 Managing water resources;** 19.Increasing water productivity in agriculture: an overview; 20.Regional strategies in sustainable water management for irrigation: the eco-efficiency approach; 21.The challenge of sustainable water resources management under water scarcity; 22.Assessing the cost of supplying water for agriculture: the food supply cost curve

## PROMOTING BIODIVERSITY



### Managing biodiversity in agricultural landscapes Conservation, restoration and rewilding

NEW

Editors: Emeritus Professor Nick Reid and Dr Rhiannon Smith, University of New England, Australia

**This book reviews the wealth of research on ways to promote biodiversity within agricultural landscapes, focussing on the range of conservation, restoration and rewilding practices farmers and landowners can adopt.**

Print ISBN: 978-1-80146-454-3

eBook ISBN: 978-1-80146-456-7

Pages: 500

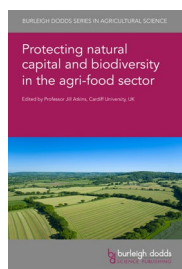
Pub. Date: June 2024

Price: £160/\$210/€190

Series No: 149

### CHAPTER TITLES

**Part 1 Principles;** 1.Key concepts in biodiversity management within agricultural landscapes; 2.Integrated farm management (IFM) plans to promote biodiversity and other environmental benefits on individual farms; 3.Understanding and improving the involvement of farmers and rural communities in implementing ecological restoration projects; 4.Implementing sustainable land use change programmes; **Part 2 Farmland and conservation practices;** 5.Soil health and ecological restoration; 6.The design and impact of field margins/flower strips in promoting biodiversity in agricultural landscapes; 7.The design and impact of hedgerows in promoting biodiversity in agricultural landscapes; 8.The design and role of silvopastoral systems in promoting biodiversity and other benefits in agricultural landscapes; **Part 3 The role of government and the private sector in promoting on-farm conservation practices;** 9.Developing the Environmental Land Management Scheme (ELMS) for English agriculture; 10.Developments in agri-environment schemes (AES): North America; 11.Developments in agri-environment schemes (AES): Australia; **Part 4 Habitat rewilding;** 12.Restoring wetlands in agricultural landscapes...(To view the full table of contents for this title, please visit our website.)



### Protecting natural capital and biodiversity in the agri-food sector

NEW

Editor: Professor Jill Atkins, Cardiff University, UK

**The book reviews recent advances in natural capital, biodiversity and extinction accounting and how these methods are being applied in different sectors and regions to improve the sustainability of agri-food supply chains.**

Print ISBN: 978-1-80146-351-5

eBook ISBN: 978-1-80146-353-9

Pages: 400

Pub. Date: January 2024

Price: £150/\$195/€180

Series No: 143

### CHAPTER TITLES

1.Protecting natural capital and biodiversity in agricultural supply chains: Introduction; **Part 1 The impact of agriculture on natural capital and biodiversity: international case studies;** 2.Natural capital and biodiversity accounting in the South African agri-food sector; 3.Avocado cultivation and biodiversity challenges; 4.Natural capital accounting and sustainable soybean farming in Brazil: creating a circular economy; 5.Biodiversity accounting in the marine aquaculture and fisheries sector; 6.Assessing the impact of pesticide production and use on natural capital and biodiversity; **Part 2 Protecting biodiversity and natural capital in agri-food supply chains: the role of accounting and finance;** 7.Advances in natural capital accounting; 8.Natural capital and biodiversity accounting in the Swedish agri-food sector; 9.Natural capital accounting in the fast food sector; 10.Natural capital and biodiversity accounting in the dairy industry; 11.Natural capital and biodiversity accounting in palm oil production; 12.Natural accounting and biodiversity in winemaking; 13.How investment institutions are engaging with industry in protecting natural capital and biodiversity; 14.Exploring corporate weather accounting by the UK food retail industry; **Part 3 Protecting pollinators and insect biodiversity in agri-food supply chains;** 15.Using data to assess the impact of agriculture on pollinators and pollinator services; 16.Developing and implementing plans to conserve insect biodiversity in agricultural landscapes

## PROMOTING BIODIVERSITY



### Promoting pollination and pollinators in farming

Editors: Professor Emeritus Peter Kevan and Dr D. Susan Willis Chan, University of Guelph, Canada

**This book reviews the wealth of research on understanding pollination processes, the role of pollinators and how best to protect them and the ecosystem services they deliver in crop production.**

Print ISBN: 978-1-80146-098-9  
Pub. Date: December 2022

eBook ISBN: 978-1-80146-101-6  
Price: £145/\$190/€175

Pages: 414  
Series No: 126

#### CHAPTER TITLES

**Part 1 Understanding pollinators and pollination;** 1.What is pollination and what are pollinators in agriculture?; 2.The role and application of olfaction in crop plant–pollinator interactions; 3.The role of wind pollination in crop plants; **Part 2 Threats to pollinators;** 4.Assessing climate change impacts on pollinators; 5.Assessing the impact of disease on pollinators; 6.How neonicotinoid insecticides affect bees and other pollinators; 7.Assessing the impact of pesticides on pollinators; 8.Assessing the impact of alien bees on native ones; **Part 3 Promoting pollinators and pollination;** 9.The role of habitat conservation and restoration in protecting pollinators in agricultural landscapes; 10.Alterng crop management practices to promote pollinators; 11.Ecological network approaches for promoting pollinators in agriculture; 12.Best management practices for pollinator protection in US apple production; 13.Entomovectoring: using pollinators to spread biocontrol agents



### Reconciling agricultural production with biodiversity conservation

Editors: Professor Paolo Bàrberi and Dr Anna-Camilla Moonen, Institute of Life Sciences – Scuola Superiore Sant'Anna, Italy

**This book provides an authoritative review of current biodiversity conservation practices, including field margins, agroforestry systems, hedgerows and improved pasture and grassland management.**

Print ISBN: 978-1-78676-348-8  
Pub. Date: September 2020

eBook ISBN: 978-1-78676-351-8  
Price: £150/\$195/€180

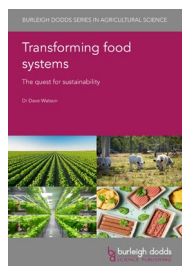
Pages: 282  
Series No: 87

#### CHAPTER TITLES

**Part 1 Methods to study biodiversity in agroecosystems;** 1.The challenge of monitoring biodiversity in agricultural landscapes at the EU level; 2.Modelling biodiversity in agriculture; 3.Assessing the economic value of agricultural biodiversity: a critical perspective; 4.Functional biodiversity for the provision of agroecosystem services; **Part 2 Management practices to support agroecosystem services;** 5.The role of field margins in biodiversity conservation in agroecosystems; 6.The role of hedgerows in supporting biodiversity and other ecosystem services in intensively managed agricultural landscapes; 7.Reconciling production and biodiversity in management of pastures and grasslands; 8.The importance of agroforestry systems in supporting biodiversity conservation and agricultural production: a European perspective



## SUSTAINABILITY & ENVIRONMENT



### Transforming food systems: The quest for sustainability

NEW

Author: Dr Dave Watson

This book assesses one of the great global challenges of our time: how to reform food systems so they are more sustainable but still able to produce the food we need. It reviews the pros and cons of reformist, progressive and radical solutions and how we might choose between them.

Print ISBN: 978-1-78676-455-3

eBook ISBN: 978-1-78676-458-4

Pages: 400

Pub. Date: September 2024

Price: £150/\$195/€180

Series No: 99

### CHAPTER TITLES

**Part 1 The global food system;** 1.Emergence of the global food system; 2.Trouble at t'mill; 3.Drivers and outcomes of change; **Part 2 Competing paradigms of food production;** 4.Neo-productivist food systems; 5.Reformist food systems; 6.Progressive food systems; 7.Radical food systems; **Part 3 The golden chalice of sustainability and the evolution of food systems;** 8.The golden chalice of sustainability; 9.Food system evolution

### ALSO BY DR DAVE WATSON

- Pesticides and agriculture (p.8)
- Achieving sustainable cultivation of maize – Volumes 1 & 2 (p.37)



### Improving standards and certification in agri-food supply chains: Ensuring safety, sustainability and social responsibility

NEW

Editor: Professor Louise Manning, University of Lincoln, UK

This book reviews the range of principles and standards that have been developed to help achieve safe, sustainable and socially responsible agricultural production.

Print ISBN: 978-1-80146-451-2

eBook ISBN: 978-1-80146-453-6

Pages: 500

Pub. Date: July 2024

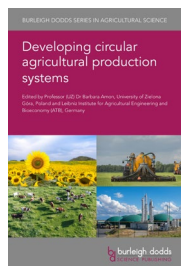
Price: £160/\$210/€190

Series No: 148

### CHAPTER TITLES

**Part 1 Setting standards;** 1.The international context: the role of Codex Alimentarius in setting safety and quality standards for global agri-food supply chains; 2.The role of governments and food safety agencies in setting safety, quality and sustainability standards in agri-food supply chains; 3.The role and range of voluntary standards and certification systems governing sustainable agricultural practices; 4.The role of non-governmental organisations (NGOs) in improving safety, quality and sustainability standards in agri-food supply chains; **Part 2 The expanding scope of agri-food chain standards;** 5.Sustainability standards and certification for agriculture: an overview; 6.Key issues in reconcepting robust carbon-neutral certification schemes for agriculture; 7.Key issues in developing biodiversity offsetting certification schemes; 8.The role of standards in improving the sustainability of livestock production; 9.Developing good agricultural practices across global agri-food supply chains; 10.Defining sustainable agricultural principles and practices: the Sustainable Agriculture Network (SAN); **Part 3 Individual standards;** 11.The role of the Rainforest Alliance in reconciling farming, environmental and social sustainability; 12.The role of certification and verification schemes in sustainable forest management (SFM); 13.Sustainability certification in palm oil cultivation; **Part 4 Measuring compliance and improving performance;** 14.The role of technology in ensuring safety, quality and sustainability in agri-food supply chains: guaranteeing greater traceability and transparency; 15.Improving good agricultural practices related to product safety on farms; 16.Measuring on-farm carbon footprints/greenhouse gas emissions; 17.Conclusions

## SUSTAINABILITY & ENVIRONMENT



### Developing circular agricultural production systems

NEW

Editor: Professor (UZ) Dr Barbara Amon, University of Zielona Góra, Poland and Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB), Germany

**This book summarises the wealth of research on the ways of achieving circular agricultural production systems through using minimal inputs, closing nutrient loops, reducing emissions and reusing and valorising agricultural wastes.**

Print ISBN: 978-1-80146-256-3

eBook ISBN: 978-1-80146-258-7

Pages: 480

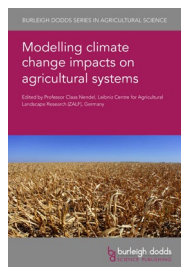
Pub. Date: January 2024

Price: £150/\$195/€180

Series No: 135

#### CHAPTER TITLES

**Part 1 General issues;** 1.Circular, closed-loop agricultural systems: key principles and challenges; 2.Understanding and developing closed-loop nutrient cycles in crop production; 3.Closed-loop combined crop–livestock farming systems; 4.Closed-loop precision farming technologies to optimize resource use; **Part 2 Re-using agricultural and other wastes;** 5.Using crop residues/by-products as livestock feed in a circular economy; 6.Optimizing slurry management; 7.Optimizing livestock manure as a biofertilizer and bioenergy source; 8.Safe and sustainable use of bio-based fertilizers in agricultural production systems; **Part 3 Co-products;** 9.Producing biogas from livestock manure and agricultural biomass; 10.Multi-feedstock biorefineries for converting agricultural wastes and microalgae into co-products; 11.Developing bioplastics from agro-industrial wastes for applications in food packaging; 12.Developing polyphenols from agricultural wastes; **Part 4 Case studies;** 13. Developing closed-loop dairy value chains and tools to support decision-makers; 14.Aquaponics: challenges and opportunities for commercial application



### Modelling climate change impacts on agricultural systems

NEW

Editor: Professor Claas Nendel, Leibniz Centre for Agricultural Landscape Research (ZALF), Germany

**This book summarises the wealth of research on ways to improve models predicting the impact of climate change on agricultural systems, as well as their application to understanding impacts in particular regions.**

Print ISBN: 978-1-80146-174-0

eBook ISBN: 978-1-80146-177-1

Pages: 754

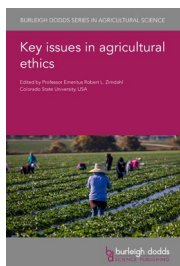
Pub. Date: July 2023

Price: £160/\$210/€190

Series No: 131

#### CHAPTER TITLES

**Part 1 Advances in modelling;** 1.Advances in integrating different models assessing the impact of climate change on agriculture; 2.Improving data flow and integration in models assessing the impact of climate change on agriculture; 3.Incorporating genetics into crop models to identify new phenotypes adapted to climate change; 4.Developing more integrated approaches in models assessing the impact of climate change on agriculture; 5.Accounting for uncertainties in modeling the impact of climate change on agriculture; **Part 2 Modelling climate change impacts on particular aspects of agricultural systems;** 6.Modeling climate change impacts on crop growth and yield formation; 7.Modelling climate change impacts on livestock production; 8.Modeling climate change impact on low-input smallholder farming systems; 9.Modeling climate change impact on agro-ecosystem services; 10.Modelling climate change impacts on agricultural commodity markets; 11.Modelling transition of agricultural systems in response to climate change; **Part 3 Modelling climate change impacts on regional agricultural systems;** 12.Modelling the impact of climate change on agriculture in Europe; 13.Modeling the impact of climate change on agriculture in the United States; 14.Modeling the impact of climate change on agriculture in Latin America; 15.Modelling the impact of climate change on agriculture in Australia and Oceania; 16.Modelling the impact of climate change on agriculture in South Asia; 17.Modelling the impact of climate change on agriculture in East Asia...(To view the full table of contents for this title, please visit our website.)



## Key issues in agricultural ethics

NEW

Editor: Professor Emeritus Robert L. Zimdahl, Colorado State University, USA

**This book explores key ethical debates surrounding agriculture and agri-food supply chains, including issues such as animal welfare, use of labour and the overall impact of agriculture on the environment.**

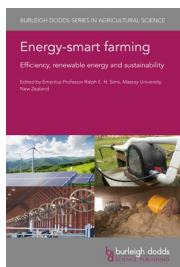
Print ISBN: 978-1-80146-313-3  
Pub. Date: June 2023

eBook ISBN: 978-1-80146-315-7  
Price: £145/\$190/€175

Pages: 294  
Series No: 140

### CHAPTER TITLES

**Part 1 General;** 1.What is agricultural ethics and why does it matter?; 2.Approaches to ethics; 3.Institutionalizing agricultural ethics in US land-grant universities; 4.Gender dimensions of agricultural ethics; 5.Agricultural ethics – the farmer's perspective; 6.Virtue ethics, Wendell Berry and agriculture; **Part 2 Ethical issues;** 7.Agriculture and the environment: ethical issues; 8.Migrant labour in agriculture: ethical issues and challenges; 9.Intensification in agriculture: ethical issues; 10.Key ethical issues in livestock farming; 11.Ethical issues of developing new technologies in agriculture; 12.Intellectual property rights in agriculture: ethical issues; 13.Ethics of agricultural research



## Energy-smart farming

Efficiency, renewable energy and sustainability

Editor: Emeritus Professor Ralph E. H. Sims, Massey University, New Zealand

**This book reviews research on methods implemented to reduce the costs and environmental impact of on-farm energy use, as well as utilising energy sources more wisely.**

Print ISBN: 978-1-78676-835-3  
Pub. Date: May 2022

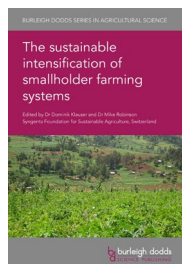
eBook ISBN: 978-1-78676-838-4  
Price: £150/\$195/€180

Pages: 370  
Series No: 115

### CHAPTER TITLES

**Part 1 Efficient use of electricity, heat and fuel;** 1.Measuring and auditing on-farm energy use; 2.Advances in energy-efficient lighting and ventilation for food production systems; 3.Improving farm machinery operation and maintenance to optimise fuel use efficiency; 4.Efficient water management and irrigation on farms; **Part 2 On-farm renewable energy heat and power generation;** 5.Assessing and modelling the costs of on-farm distributed renewable energy systems; 6.Energy-smart innovation and renewable energy systems on farms: an overview; 7.On-farm biomass technologies for heat and power; 8.Developments in agrivoltaics: achieving synergies by combining plants with solar photovoltaic power systems; **Part 3 Energy-smart farming: case studies;** 9.Tools and technologies to reduce fossil energy use on dairy farms; 10.Energy-smart pig farming; 11.Energy-smart poultry farming

## SUSTAINABILITY & ENVIRONMENT



### The sustainable intensification of smallholder farming systems

Editors: Dr Dominik Klauser and Dr Mike Robinson, Syngenta Foundation for Sustainable Agriculture, Switzerland

**This volume reviews recent research on effective support measures to improve the livelihoods of smallholders in sub-Saharan Africa. It also assesses ways of improving extension and other services to support sustainable production.**

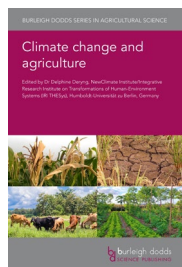
Print ISBN: 978-1-78676-430-0  
Pub. Date: November 2020

eBook ISBN: 978-1-78676-433-1  
Price: £180/\$235/€215

Pages: 466  
Series No: 93

### CHAPTER TITLES

**Part 1 Understanding smallholder farming;** 1.The challenges of smallholder farming; 2.The economics of smallholder farming; **Part 2 Agricultural production;** 3.Water management for rainfed smallholder farming; 4.Smallholder seed systems for sustainability; 5.Tools for pest and disease management by stakeholders: a case study on Plantwise; 6.Improving integrated soil fertility management (ISFM) by smallholders; 7.Access to mechanization for smallholder farmers in Africa; **Part 3 Access to finance and information;** 8.Financial services for smallholders; 9.Strengthening public-sector extension systems for smallholder farmers in Kenya; 10.Strengthening commercial extension systems for smallholders; 11.Supporting female smallholders; **Part 4 Access to value chains;** 12.Improving market access for smallholders; 13.Incentivizing sustainable production practices: improving and scaling extension, certification, carbon markets and other incentive systems; 14.The role and challenges of the private sector in supplying inputs to smallholders; 15.The role and challenges of the private sector in enabling market access for smallholders



### Climate change and agriculture

Editor: Dr Delphine Deryng, NewClimate Institute/Integrative Research Institute on Transformations of Human-Environment Systems (IRI THESys), Humboldt-Universität zu Berlin, Germany

**This book reviews current research on the impacts of climate change on agriculture, as well as agriculture's contribution to climate change.**

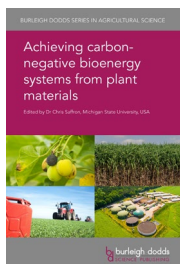
Print ISBN: 978-1-78676-320-4  
Pub. Date: April 2020

eBook ISBN: 978-1-78676-323-5  
Price: £150/\$195/€180

Pages: 404  
Series No: 78

### CHAPTER TITLES

**Part 1 The impacts of climate change on agriculture;** 1.The effects on crop cultivation of increased CO<sub>2</sub>, temperature and ozone levels due to climate change; 2.Effects of climate change on agricultural soils; 3.Modeling the effects of climate change on agriculture: a focus on cropping systems; **Part 2 The contribution of agriculture to climate change;** 4.Quantifying the role of livestock in climate change; 5.The role of crop cultivation in contributing to climate change; 6.The role of agricultural expansion, land cover and land-use change in contributing to climate change; 7.Measuring and quantifying greenhouse gas emissions from agricultural activities; **Part 3 Adaption and mitigation strategies in agriculture;** 8.Climate-smart crop production: understanding complexity for achieving triple-wins; 9.The contribution of integrated crop-livestock systems in combatting climate change and improving resilience in agricultural production to achieve food security; 10.Agroforestry as a solution for multiple climate change challenges in Africa



## Achieving carbon-negative bioenergy systems from plant materials

Editor: Dr Chris Saffron

**There is a need to develop next-generation bioenergy systems that exhibit net carbon capture. This book reviews advances in producing next-generation biofuels from plant materials.**

Print ISBN: 978-1-78676-252-8

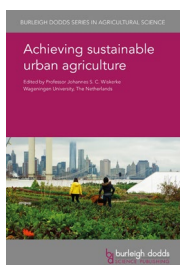
eBook ISBN: 978-1-78676-255-9

Pages: 410

Pub. Date: February 2020

Price: £150/\$195/€180

Series No: 64



## Achieving sustainable urban agriculture

Editor: Professor Johannes S. C. Wiskerke

**This volume reviews research on building urban and peri-urban agricultural networks, as well as the use of technologies such as rooftop and vertical farming systems.**

Print ISBN: 978-1-78676-316-7

eBook ISBN: 978-1-78676-319-8

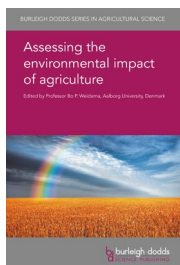
Pages: 408

Pub. Date: February 2020

Price: £150/\$195/€180

Series No: 77

© Cover Image Brooklyn Grange Rooftop Farm



## Assessing the environmental impact of agriculture

Editor: Professor Bo P. Weidema

**This book summarises current research on the use of life cycle assessment and other modelling techniques to measure and improve the sustainability of agriculture.**

Print ISBN: 978-1-78676-228-3

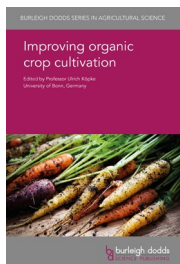
eBook ISBN: 978-1-78676-231-3

Pages: 386

Pub. Date: August 2019

Price: £160/\$210/€190

Series No: 57



## Improving organic crop cultivation

Editor: Professor Ulrich Köpke

**Organic crop cultivation needs to improve yields if it is to expand its share of agricultural production. This volume reviews the wealth of research addressing this challenge.**

Print ISBN: 978-1-78676-184-2

eBook ISBN: 978-1-78676-187-3

Pages: 568

Pub. Date: November 2018

Price: £180/\$235/€215

Series No: 47

TECHNOLOGY & DATA



Smart farms

Improving data-driven decision making in agriculture

Editor: Professor Claus Sørensen, Aarhus University, Denmark

NEW

This book reviews recent advances in processing and analysing data to provide actionable outcomes for farmers to be able to achieve a more sustainable agriculture and reduce the sector's contribution to climate change.

Print ISBN: 978-1-80146-382-9	eBook ISBN: 978-1-80146-384-3	Pages: 300
Pub. Date: March 2024	Price: £140/\$180/€170	Series No: 147

CHAPTER TITLES

**Part 1 General;** 1.Trends in farm management systems (FMIS); 2.Improving farm production planning information systems; 3.Key issues in incorporating proximal and remote sensor data into farm decision making; 4.AgriSemantics: developments in improving data interoperability to support applications such as farm information management/decision support systems; 5.Using data mining techniques for decision support in agriculture: support vector machines; **Part 2 Case studies;** 6.Developing decision support systems for irrigation/water management on farms; 7.Advances in crop disease forecasting models; 8.Smart Farming in extensive livestock production: the Australian experience



Advances in agri-food robotics

Editors: Professor Eldert van Henten, Wageningen University, The Netherlands and Professor Yael Edan, Ben-Gurion University of the Negev, Israel

NEW

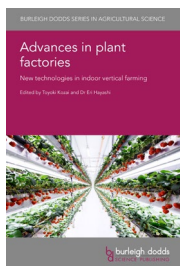
This book explores and reviews the wealth of recent research undertaken in the field of agricultural robotics, both in terms of core technologies and range of applications.

Print ISBN: 978-1-80146-277-8	eBook ISBN: 978-1-80146-279-2	Pages: 600
Pub. Date: March 2024	Price: £160/\$210/€190	Series No: 139

CHAPTER TITLES

**Part 1 Technologies: sensing and perception;** 1.Advances in localization and perception in agricultural robotics; 2.Advances in world modelling in agricultural robotics; 3.Advance in active perception in agricultural robotics; 4.Advances in machine learning for agricultural robots; **Part 2 Technologies: operational aspects;** 5.Advances in route/path planning and autonomous navigation in agricultural robotics; 6.Advances in human-robot collaboration in agricultural robotics; 7.The use of digital twin technologies in agricultural robot system design; 8.Advances in connectivity and distributed intelligence in agricultural robotics; 9.Advances in fault detection/diagnosis and safety systems in agricultural robotics; **Part 3 Technologies: actuation;** 10.Advances in mobility platforms for agricultural robots; 11.Advances in grasping techniques in agricultural robots; 12.Advances in soft robotics in agriculture; 13.Advances in agricultural unmanned aerial vehicles (UAVs); **Part 4 Social, ethical and economic aspects;** 14.Regulatory frameworks and standards for agricultural robotics; 15.Economics of agricultural robotics; 16.Social and ethical considerations for agricultural robotics; **Part 5 Applications;** 17.Advances in the use of robotics in crop phenotyping; 18.Advances in the use of robots in field crop cultivation; 19.Advances in the use of robotics in orchard cultivation; 20.Advances in the use of robotics in greenhouse cultivation; 21.Advances in the use of robotics in livestock production





## Advances in plant factories

### New technologies in indoor vertical farming

Editors: Toyoki Kozai and Eri Hayashi

**This book reviews the wealth of research on vertical farms or plant factories with artificial lighting. It summarises key research both on improving process efficiency and produce quality of horticultural crops.**

Print ISBN: 978-1-80146-316-4

eBook ISBN: 978-1-80146-318-8

Pages: 520

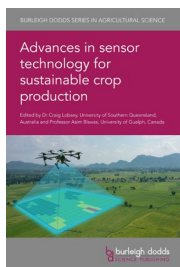
Pub. Date: August 2023

Price: £160/\$210/€190

Series No: 141

#### CHAPTER TITLES

**Part 1 Introduction: backgrounds, concept and methodology of sustainable PFALs;** 1.Characteristics, potential and challenges of plant factories with artificial lighting (PFALs): Introduction; 2.Requirements and features of cultivation system modules in advanced plant factories with artificial lighting; 3.Research and technology in plant factories with artificial lighting: past, present and future; **Part 2 Energy and other resource performance;** 4.Life cycle assessment of indoor vertical farms; 5.Reducing carbon emissions from plant factories with artificial lighting; 6.Optimizing energy and other resource use in vertical farms; 7.Energy consumption in plant factories with artificial lighting: concepts and pathways toward a sustainable future; 8.Closed plant production systems in vertical farms for a circular economy; **Part 3 Phenotyping;** 9.Application of machine vision in plant factories; 10.Plant phenotyping of individual plants towards optimal environmental control in plant factories; **Part 4 Spectral manipulations for controlling the growth and quality of leafy greens;** 11.Growth and quality of lettuce in vertical farms as affected by red:blue and red:far-red ratios; 12.Spectral manipulations to control growth and quality of lettuce and other leafy greens in vertical farms...(To view the full table of contents for this title, please visit our website.)



## Advances in sensor technology for sustainable crop production

Editors: Dr Craig Lobsey, University of Southern Queensland, Australia and Professor Asim Biswas, University of Guelph, Canada

**This book reviews key advances in sensor technology, including developments in proximal and remote sensing techniques to measure and monitor crop health, weeds and diseases.**

Print ISBN: 978-1-78676-977-0

eBook ISBN: 978-1-78676-980-0

Pages: 384

Pub. Date: February 2023

Price: £145/\$190/€175

Series No: 122

#### CHAPTER TITLES

**Part 1 Advances in remote sensing technologies;** 1.Advances in remote/aerial sensing of crop water status; 2.Advances in remote sensing technologies for assessing crop health; 3.Advances in remote/aerial sensing techniques for monitoring soil health; **Part 2 Advances in proximal sensing technologies;** 4.Advances in using proximal spectroscopic sensors to assess soil health; 5.Advances in using proximal ground penetrating radar sensors to assess soil health; 6.Using proximal electromagnetic/electrical resistivity/electrical sensors to assess soil health; 7.Using ground-penetrating radar to map agricultural subsurface drainage systems for economic and environmental benefit; **Part 3 Advances in sensor data analytics;** 8.Advances in machine vision technologies for the measurement of soil texture, structure and topography; 9.Using machine learning to identify and diagnose crop disease; 10.Advances in proximal sensor fusion and multi-sensor platforms for improved crop management; 11.Using remote and proximal sensor data in precision agriculture applications

## TECHNOLOGY & DATA



### Improving data management and decision support systems in agriculture

Editor: Dr Leisa Armstrong

**This book reviews general issues underpinning effective decision support systems their deployment in an array of agricultural settings.**

Print ISBN: 978-1-78676-340-2

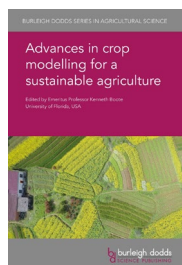
eBook ISBN: 978-1-78676-343-3

Pages: 340

Pub. Date: April 2020

Price: £160/\$210/€190

Series No: 85



### Advances in crop modelling for a sustainable agriculture

Editor: Emeritus Professor Kenneth Boote

**Crop modelling has huge potential to improve decision making in farming. This book reviews advances in next-generation models focused on user needs at the whole farm system and landscape scale.**

Print ISBN: 978-1-78676-240-5

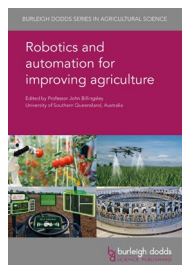
eBook ISBN: 978-1-78676-243-6

Pages: 542

Pub. Date: December 2019

Price: £180/\$235/€215

Series No: 75



### Robotics and automation for improving agriculture

Editor: Professor John Billingsley

**The book reviews advances in technologies such as machine vision and control systems, as well as applications from crop planting, fertilisation, pest and weed management to livestock production.**

Print ISBN: 978-1-78676-272-6

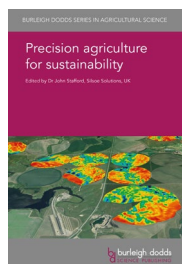
eBook ISBN: 978-1-78676-275-7

Pages: 326

Pub. Date: June 2019

Price: £160/\$210/€190

Series No: 84



### Precision agriculture for sustainability

Editor: Dr John Stafford

**By using resources more efficiently, precision agriculture can make farming more productive and sustainable. This book reviews current research on key technologies in precision agriculture and its applications.**

Print ISBN: 978-1-78676-204-7

eBook ISBN: 978-1-78676-207-8

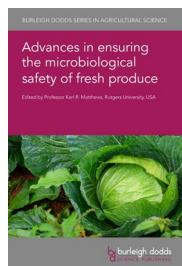
Pages: 514

Pub. Date: November 2018

Price: £180/\$235/€215

Series No: 52

## POSTHARVEST MANAGEMENT



### Advances in ensuring the microbiological safety of fresh produce

NEW

Editor: Professor Karl R. Matthews, Rutgers University, USA

**This book reviews recent research on preventing microbial contamination of fresh fruit and vegetables, from understanding key pathogens to ways of detecting and preventing contamination across the supply chain.**

Print ISBN: 978-1-80146-268-6

eBook ISBN: 978-1-80146-270-9

Pages: 414

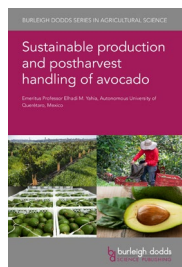
Pub. Date: August 2023

Price: £145/\$190/€175

Series No: 136

### CHAPTER TITLES

**Part 1 Pathogenic risks;** 1.Advances in understanding contamination of fresh produce by *Salmonella*; 2.Advances in understanding and presenting contamination of fresh produce by *Listeria monocytogenes*; 3.Advances in understanding contamination of fresh produce by pathogenic *Escherichia coli*; **Part 2 Detection and risk assessment;** 4.Developments in rapid detection/high throughput screening techniques for identifying pathogens in food; 5.Advances in modelling pathogen behaviour in fresh produce; 6.Advances in quantitative microbiological risk assessment for pathogens in fresh produce; **Part 3 Improving safety along the value chain;** 7.Advances in understanding sources of pathogenic contamination of fresh produce: soil and soil amendments; 8.The role of Good Agricultural Practices (GAPs) in preventing pathogenic microbial contamination of fresh produce; 9.Advances in sanitising techniques and their assessment for assuring the safety of fresh produce; 10.Developments in packaging techniques and their assessment for assuring the safety of fresh produce; 11.The role of good manufacturing practice and hazard analysis and critical control point systems in maintaining the safety of minimally processed fresh produce; 12.Improving safe consumer handling of fresh produce



### Sustainable production and postharvest handling of avocado

NEW

Author: Emeritus Professor Elhadi M. Yahia, Autonomous University of Querétaro, Mexico

**Based on a lifetime's experience from one of the world's leading experts in the field, this book explores how to optimise the avocado value chain from planting to postharvest packaging and display.**

Print ISBN: 978-1-80146-725-4

eBook ISBN: 978-1-80146-727-8

Pages: 358

Pub. Date: March 2023

Price: £150/\$195/€180

Series No: 157

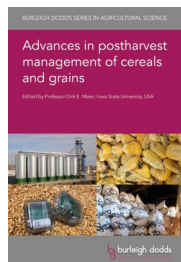
### CHAPTER TITLES

1.Avocado: an introduction to the fruit and its pre- and postharvest processing; 2.Nutritional value, health benefits and uses of avocado; 3.The global avocado industry; 4.Advances in pre-harvest management of avocado; 5.Advances in postharvest physiology, technology and handling of fresh avocado; 6.Postharvest processing of avocado; 7.Trading and marketing of avocado

### See what others are saying about this book:

**"Sustainable production and postharvest handling of avocado warrants a place on the shelf of every scientist and technician working with or interested in avocados."**  
(Dr Jeffrey K. Brecht, Research Foundation Professor, University of Florida, USA)

## POSTHARVEST MANAGEMENT



### Advances in postharvest management of cereals and grains

Editor: Professor Dirk E. Maier

This book includes authoritative discussions on the viability of different technologies implemented to control postharvest losses of cereals and grains, such as fumigation, biopesticides and controlled atmospheres.

Print ISBN: 978-1-78676-352-5

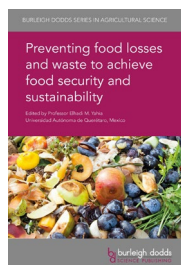
eBook ISBN: 978-1-78676-355-6

Pages: 478

Pub. Date: August 2020

Price: £150/\$195/€180

Series No: 88



### Preventing food losses and waste to achieve food security and sustainability

Editor: Professor Elhadi M. Yahia, Universidad Autónoma de Querétaro, Mexico

This book reviews the causes and prevention of food losses and waste at key steps in the supply chain for different commodities and in particular regions.

Print ISBN: 978-1-78676-300-6

eBook ISBN: 978-1-78676-303-7

Pages: 852

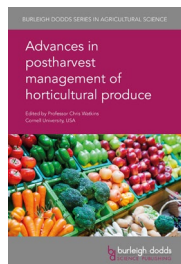
Pub. Date: March 2020

Price: £190/\$245/€230

Series No: 70

#### CHAPTER TITLES

1.Food security: key issues; **Part 1 The problem of food losses and waste**; 2.Food losses and waste: definitions, causes and methods for quantification; 3.The role of food losses and waste in food insecurity; 4.The multidimensional socio-economic impacts of food losses and waste; 5.The environmental impact of food loss and waste (FLW); 6.The impact of food loss and waste on human nutrition and health; 7.The role of food safety in food waste and losses; **Part 2 Causes of food losses and waste**; 8.Improving supply chains to prevent food losses and waste: an overview; 9.Food losses during production of agricultural commodities; 10.Food losses and waste during food processing; 11.Temperature deviations during transport as a cause for food losses; 12.Food waste at the consumer level; 13.Food waste in food services; **Part 3 Food losses and waste in different commodities**; 14.Food losses and waste in cereal grains; 15.Losses and waste in fruits and vegetables; 16.Food losses and food waste in roots and tubers; 17.Food losses and waste in meats; 18.Understanding and preventing seafood loss and waste; **Part 4 Reducing food losses and waste**; 19.Investment needs and role of the private sector in reducing food loss and waste; 20.The role of food banks in food security and food loss and waste (FLW) prevention...(To view the full table of contents for this title, please visit our website.)



### Advances in postharvest management of horticultural produce

Editor: Professor Chris Watkins

This book reviews advances in preservation and disinfection, monitoring and management techniques to optimise safety and quality of fresh fruit and vegetables.

Print ISBN: 978-1-78676-288-7

eBook ISBN: 978-1-78676-291-7

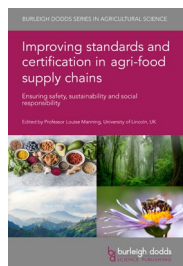
Pages: 464

Pub. Date: January 2020

Price: £150/\$195/€180

Series No: 66

## SUPPLY CHAIN MANAGEMENT



### Improving standards and certification in agri-food supply chains: Ensuring safety, sustainability and social responsibility

NEW

Editor: Professor Louise Manning, University of Lincoln, UK

This book reviews the range of principles and standards that have been developed and the ways to optimise their contribution to achieving safe, sustainable and socially responsible agricultural production.

Print ISBN: 978-1-80146-451-2

eBook ISBN: 978-1-80146-453-6

Pages: 500

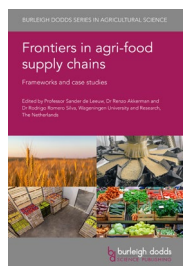
Pub. Date: July 2024

Price: £160/\$210/€190

Series No: 148

### CHAPTER TITLES

**Part 1 Setting standards;** 1.The international context: the role of Codex Alimentarius in setting safety and quality standards for global agri-food supply chains; 2.The role of governments and food safety agencies in setting safety, quality and sustainability standards in agri-food supply chains; 3.The role and range of voluntary standards and certification systems governing sustainable agricultural practices; 4.The role of non-governmental organisations (NGOs) in improving safety, quality and sustainability standards in agri-food supply chains; **Part 2 The expanding scope of agri-food chain standards;** 5.Sustainability standards and certification for agriculture: an overview; 6.Key issues in developing robust carbon-neutral certification schemes for agriculture; 7.Key issues in developing biodiversity offsetting certification schemes; 8.The role of standards in improving the sustainability of livestock production; 9.Developing good agricultural practices across global agri-food supply chains; 10.Defining sustainable agricultural principles and practices: the Sustainable Agriculture Network (SAN); **Part 3 Individual standards;** 11.The role of the Rainforest Alliance in reconciling farming, environmental and social sustainability; 12.The role of certification and verification schemes in sustainable forest management (SFM); 13.Sustainability certification in palm oil cultivation...(To view the full table of contents for this title, please visit our website.)



### Frontiers in agri-food supply chains: Frameworks and case studies

NEW

Editors: Professor Sander de Leeuw, Dr Renzo Akkerman and Dr Rodrigo Romero Silva, Wageningen University and Research, The Netherlands

This book reviews differing types of agri-food supply chain around the world and the challenges they face in ensuring a safe, efficient and environmentally-sustainable supply of food to customers.

Print ISBN: 978-1-80146-271-6

eBook ISBN: 978-1-80146-273-0

Pages: 400

Pub. Date: April 2024

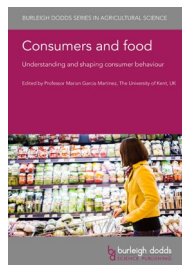
Price: £150/\$195/€180

Series No: 137

### CHAPTER TITLES

1.Studying agri-food supply chains: an analytical framework; **Part 1 Food supply chains in different regions;** 2.Agri-food supply chains in the Americas; 3.Agri-food supply chains in Western and Northern Europe; 4.Agri-food supply chains in Southern and Eastern Europe; 5.Agri-food supply chains in Asia; **Part 2 Assessing agri-food supply chain performance: tools and techniques;** 6.End-to-end performance measurement systems for agri-food supply chains; 7.Agri-food supply chain infrastructure design; 8.Planning and control in agri-food supply chains; 9.Information and communication technology in agri-food supply chains; **Part 3 Performance improvement in agri-food supply chains: case studies;** 10.Improving agri-food supply chains in the Americas; 11.Supply chain resilience capabilities in food supply chains: A study of the impact of COVID-19 in the Netherlands; 12.Improving agri-food supply chains in Africa and the Middle East; 13.Improving agri-food supply chains in Asia; **Part 4 Conclusions;** 14 Where next for agri-food supply chains

## SUPPLY CHAIN MANAGEMENT



### Consumers and food

#### Understanding and shaping consumer behaviour

Editor: Professor Marian Garcia Martinez, The University of Kent, UK

**This book reviews what we know about changing food purchasing behaviours so that farmers, food manufacturers, retailers and policymakers can better meet and influence customer needs and expectations.**

Print ISBN: 978-1-80146-354-6

Pub. Date: November 2023

eBook ISBN: 978-1-80146-356-0

Price: £150/\$195/€180

Pages: 332

Series No: 144

### CHAPTER TITLES

**Part 1 Understanding consumer attitudes and patterns of behaviour;** 1. Using duality models to understand how consumers process information about food and nutrition; 2. Neuropsychology of consumer food choice; 3. Geographical patterns of food-purchasing behaviour: the example of sub-Saharan Africa; 4. Sustainable food consumption attitudes and behavior: generational cohort differences; 5. Behavioural change towards sustainable food consumption; **Part 2 Product attributes;** 6. Understanding consumer perceptions and attitudes towards nutrition labels and health claims in food; 7. Trends in consumer preference for locally sourced food products; 8. The effects of consumer perception of food safety and quality in food purchase decisions; 9. Understanding consumer attitudes to organic food: using profile deviation analysis for consumer benchmarking; 10. Understanding consumer attitudes to environmental sustainability issues in agricultural and food production



### Developing smart agri-food supply chains

#### Using technology to improve safety and quality

Editor: Professor Louise Manning, Royal Agricultural University, UK

**This book provides an authoritative assessment of the current issues challenging the safety of agri-food supply chains and the recent technological developments implemented to improve safety and quality at all levels.**

Print ISBN: 978-1-78676-749-3

Pub. Date: December 2021

eBook ISBN: 978-1-78676-752-3

Price: £150/\$195/€180

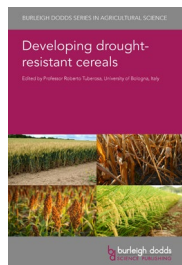
Pages: 460

Series No: 112

### CHAPTER TITLES

**Part 1 Tracking and traceability;** 1. Advances in traceability systems in agri-food supply chains; 2. Advances in fingerprint and rapid methods for improved traceability in agri-food supply chains; 3. Advances in identifying GM plants: current frame of the detection of transgenic GMOs; 4. Advances in identifying GM plants: toward the routine detection of 'hidden' and 'new' GMOs; **Part 2 Product integrity and malicious contamination;** 5. Foodomics: Advances in product testing in agri-food supply chains; 6. Key challenges and developments in non-targeted methods or systems to identify food adulteration; 7. Advances in identifying and tracking malicious contamination of food in agri-food supply chains; 8. The role of technology in crisis management and product recall in food supply chains; **Part 3 Safety, quality and smart systems;** 9. Sampling and statistics in assessment of fresh produce; 10. Developing decision support systems for crop yield forecasts; 11. Smart post-harvest technology to maintain quality and safety in fresh produce supply chains; 12. Advances in techniques for identifying and tracking foreign bodies in agri-food supply chains; 13. The use of Internet of Things (IoT) technology to improve transparency in agri-food supply chains; 14. Drivers of farmers' usage of digital marketplace platform: evidence from India

## CEREALS



### Developing drought-resistant cereals

NEW

Editor: Professor Roberto Tuberosa, University of Bologna, Italy

This book explores the challenge of achieving improved drought tolerance in key cereal crops such as wheat and barley and reviews key research and strategies which address how to overcome this challenge in order to mitigate the effects of climate change on cereal production.

Print ISBN: 978-1-78676-985-5  
Pub. Date: January 2024

eBook ISBN: 978-1-78676-988-6  
Price: £150/\$195/€180

Pages: 408  
Series No: 124

#### CHAPTER TITLES

**Part 1 Understanding mechanisms of drought tolerance;** 1.What is 'drought stress' and what are options to increase crop yield?; 2.The role of plant hormones in adaptation to drought stress in cereals; 3. Genetics of drought tolerance in cereals; 4.The role of drought-induced proteins in regulating drought tolerance in cereals; **Part 2 Techniques for improving resistance;** 5.Advances in phenotyping to identify drought-resistance traits in cereal roots; 6.Identifying and exploiting genes controlling root system architecture for improving drought tolerance in cereals; 7.Identifying and exploiting photosynthetic genes in improving drought resistance in cereals; 8.Genomic selection, gene editing and genetic engineering for drought tolerance in cereals; 9.Identifying genes for yield-related traits under drought stress conditions in durum wheat; 10.Developing corn hybrids with improved performance under water deficits



### Advances in understanding insect pests affecting wheat and other cereals

NEW

Editors: Professor Sanford D. Eigenbrode, University of Idaho, USA and Dr Arash Rashed, Virginia Tech, USA

This book discusses recent developments in fundamental and applied research on major pests and shows how better understanding of these pests can be used to improve integrated pest management strategies.

Print ISBN: 978-1-80146-113-9  
Pub. Date: May 2023

eBook ISBN: 978-1-80146-116-0  
Price: £150/\$195/€180

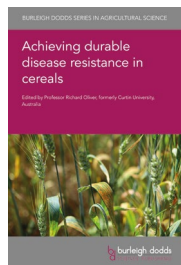
Pages: 478  
Series No: 129

#### CHAPTER TITLES

**Part 1 Foliar feeding pests;** 1.Cereal leaf beetle (*Oulema melanopus*); 2.Grasshoppers and other orthopteran pests; **Part 2 Grain midges and stem feeding pests;** 3.The Hessian fly: a destructive pest of wheat and barley; 4.Wheat midge (*Sitodiplosis mosellana*); management in the Northern Great Plains of the United States and Canada; 5.Wheat stem sawfly (*Cephus cinctus* Norton); **Part 3 Phloem feeding pests, mites and root feeding pests;** 6.Russian wheat aphid (*Diuraphis noxia*); an overview; 7.Greenbug (*Schizaphis graminum*); an overview; 8.Greenbug-wheat interactions, pest management and host resistance; 9. Fescue aphid (*Metopolophium festucae*); 10.The English grain aphid *Sitobion avenae*; 11.Wheat curl mite ecology and epidemiology of its associated wheat viruses; 12.Advances in managing wireworms in cereal crops: challenges and future directions; **Part 4 Emerging issues;** 13.Recent invasions of insect pests of wheat and sorghum; 14.Biotechnology for wheat crop protection: potential and challenges; 15.Online decision support systems, remote sensing and artificial intelligence applications for wheat pest management



## CEREALS



### Achieving durable disease resistance in cereals

Editor: Professor Richard Oliver, formerly Curtin University, Australia

This book reviews advances in the key areas required to achieve durable disease resistance in cereal crops, from advances in understanding pathogen biology/epidemiology to identifying sources of resistance.

Print ISBN: 978-1-78676-601-4

eBook ISBN: 978-1-78676-604-5

Pages: 970

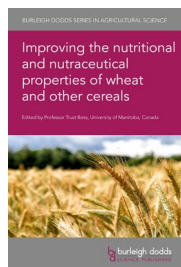
Pub. Date: October 2021

Price: £180/\$235/€215

Series No: 106

### CHAPTER TITLES

1.Global patterns of cereal diseases and the impacts of breeding for host plant resistance; **Part 1 Fungal diseases of cereals: rusts**; 2.Advances in understanding the biology and epidemiology of rust diseases of cereals; 3.Advances in identifying stripe rust resistance genes in cereals; **Part 2 Fungal diseases of cereals: Fusarium head blight**; 4.Advances in understanding the epidemiology of *Fusarium* in cereals; 5.Cereal-*Fusarium* interactions: Improved fundamental insights into *Fusarium* pathogenomics and cereal host resistance reveals new ways to achieve durable disease control; 6.Advances in genetic improvement of durable resistance to *Fusarium* head blight in wheat; **Part 3 Fungal diseases of cereals: Septoria tritici blotch**; 7.Advances in understanding the epidemiology of *Septoria tritici* blotch in cereals; 8.Understanding plant-pathogen interactions in *Septoria tritici* blotch infection of cereals; 9.Advances in breeding techniques for durable *Septoria tritici* blotch (STB) resistance in cereals; **Part 4 Fungal diseases of cereals: Septoria nodorum blotch and spot blotch**; 10.Understanding the plant-pathogen interaction associated with *Septoria nodorum* blotch of wheat; 11.Advances in genetic mapping of *Septoria nodorum* blotch resistance in wheat and applications in resistance breeding...(To view the full table of contents for this title, please visit our website.)



### Improving the nutritional and nutraceutical properties of wheat and other cereals

Editor: Professor Trust Beta

This volume reviews the key research on the nutritional components of cereals, as well as the way processing can inhibit or optimise their benefits.

Print ISBN: 978-1-78676-479-9

eBook ISBN: 978-1-78676-482-9

Pages: 380

Pub. Date: May 2021

Price: £145/\$190/€175

Series No: 81



### Advances in postharvest management of cereals and grains

Editor: Professor Dirk E. Maier

This book includes authoritative discussions on the viability of different technologies implemented to control postharvest losses of cereals and grains, such as fumigation, biopesticides and controlled atmospheres.

Print ISBN: 978-1-78676-352-5

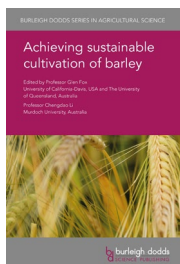
eBook ISBN: 978-1-78676-355-6

Pages: 478

Pub. Date: August 2020

Price: £150/\$195/€180

Series No: 88



## Achieving sustainable cultivation of barley

Editors: Professor Glen Fox and Professor Chengdao Li

**This book reviews advances in understanding barley physiology and genetics, molecular breeding and cultivation techniques, as well as disease and weed management.**

Print ISBN: 978-1-78676-308-2

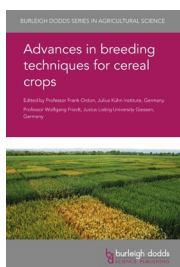
eBook ISBN: 978-1-78676-311-2

Pages: 528

Pub. Date: February 2020

Price: £170/\$220/€205

Series No: 74



## Advances in breeding techniques for cereal crops

Editors: Professor Frank Ordon and Professor Wolfgang Friedt

**This book provides reviews recent advances in breeding techniques for cereals such as wheat, barley, maize and rye. It looks at advances in exploiting genetic diversity, the use of doubled haploids and hybrid breeding.**

Print ISBN: 978-1-78676-244-3

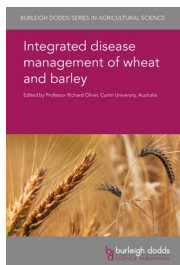
eBook ISBN: 978-1-78676-247-4

Pages: 612

Pub. Date: June 2019

Price: £190/\$245/€230

Series No: 60



## Integrated disease management of wheat and barley

Editor: Professor Richard Oliver

**This book reviews the latest research on understanding the main fungal diseases of cereals and the key challenges in integrated disease management of wheat and barley.**

Print ISBN: 978-1-78676-216-0

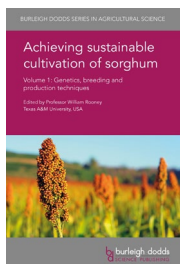
eBook ISBN: 978-1-78676-219-1

Pages: 366

Pub. Date: October 2018

Price: £170/\$220/€205

Series No: 19



## Achieving sustainable cultivation of sorghum – Volume 1 Genetics, breeding and production techniques

Editor: Professor William Rooney

**The first volume in this two-volume book reviews advances in understanding sorghum physiology and genetics.**

Print ISBN: 978-1-78676-120-0

eBook ISBN: 978-1-78676-123-1

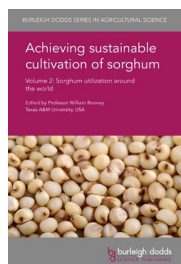
Pages: 546

Pub. Date: July 2018

Price: £160/\$210/€190

Series No: 31

## CEREALS



### Achieving sustainable cultivation of sorghum – Volume 2 Sorghum utilization around the world

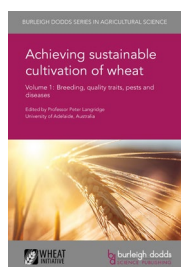
Editor: Professor William Rooney

**The second volume in this sequence summarises key research on the wide range of uses of sorghum as food, animal feed and for biofuel.**

Print ISBN: 978-1-78676-124-8  
Pub. Date: April 2018

eBook ISBN: 978-1-78676-127-9  
Price: £130/\$170/€155

Pages: 260  
Series No: 32



### Achieving sustainable cultivation of wheat – Volume 1 Breeding, quality traits, pests and diseases

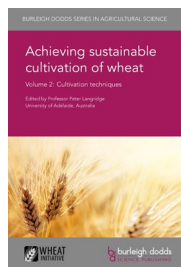
Editor: Professor Peter Langridge

**This book reviews advances in breeding techniques as well as their application to produce drought-resistant and other improved varieties.**

Print ISBN: 978-1-78676-016-6  
Pub. Date: June 2017

eBook ISBN: 978-1-78676-019-7  
Price: £190/\$245/€230

Pages: 686  
Series No: 05



### Achieving sustainable cultivation of wheat – Volume 2 Cultivation techniques

Editor: Professor Peter Langridge

**The second volume in this two-volume series discusses ways of improving cultivation from variety selection to post-harvest storage.**

Print ISBN: 978-1-78676-020-3  
Pub. Date: July 2017

eBook ISBN: 978-1-78676-023-4  
Price: £130/\$170/€155

Pages: 350  
Series No: 06



### Rice insect pests and their management

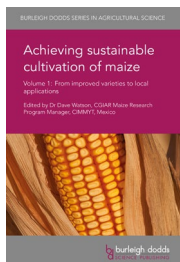
Authors: E. A. Heinrichs, Francis E. Nwilene, Michael J. Stout, Buyung A. R. Hadi and Thais Freitas

**This book uses the unique expertise of leading rice entomologists to provide the first global coverage of rice insect pests.**

Print ISBN: 978-1-78676-196-5  
Pub. Date: June 2017

eBook ISBN: 978-1-78676-199-6  
Price: £180/\$235/€215

Pages: 292  
Series No: 50



## Achieving sustainable cultivation of maize – Volume 1

### From improved varieties to local applications

Editor: Dr Dave Watson

**This volume focuses on breeding new varieties with desirable traits such as drought tolerance and improved nutritional value.**

Print ISBN: 978-1-78676-008-1

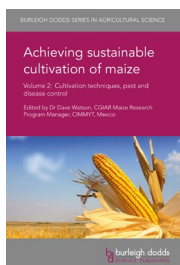
eBook ISBN: 978-1-78676-011-1

Pages: 348

Pub. Date: June 2017

Price: £150/\$195/€180

Series No: 01



## Achieving sustainable cultivation of maize – Volume 2

### Cultivation techniques, pest and disease control

Editor: Dr Dave Watson

**The second volume covers methods for improving maize cultivation, from seed selection to nutrition, irrigation and techniques such as intercropping.**

Print ISBN: 978-1-78676-012-8

eBook ISBN: 978-1-78676-015-9

Pages: 470

Pub. Date: July 2017

Price: £170/\$220/€205

Series No: 02



## Achieving sustainable cultivation of rice – Volume 1

### Breeding for higher yield and quality

Editor: Professor Takuji Sasaki

**This book reviews advances in breeding techniques in rice cultivation, as well as improving traits such as flood or drought resistance.**

Print ISBN: 978-1-78676-024-1

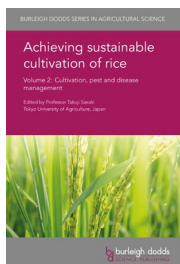
eBook ISBN: 978-1-78676-027-2

Pages: 298

Pub. Date: May 2017

Price: £140/\$180/€170

Series No: 03



## Achieving sustainable cultivation of rice – Volume 2

### Cultivation, pest and disease management

Editor: Professor Takuji Sasaki

**The second volume reviews ways of improving rice cultivation, from planting to soil management, nutrition and irrigation.**

Print ISBN: 978-1-78676-028-9

eBook ISBN: 978-1-78676-031-9

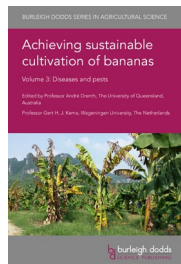
Pages: 438

Pub. Date: May 2017

Price: £150/\$195/€180

Series No: 04

## HORTICULTURE



### Achieving sustainable cultivation of bananas – Volume 3 Diseases and pests

**NEW**

Editors: Professor André Drenth, The University of Queensland, Australia and Professor Gert H. J. Kema, Wageningen University, The Netherlands

**This book reviews major pests and diseases affecting global banana production and explores the key stages of disease identification, development and management.**

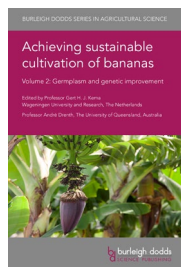
Print ISBN: 978-1-78676-981-7  
Pub. Date: February 2024

eBook ISBN: 978-1-78676-984-8  
Price: £170/\$220/€205

Pages: 600  
Series No: 123

#### CHAPTER TITLES

**Part 1 Fungal diseases;** 1.The Sigatoka leaf disease complex in banana; 2.Controlling black leaf streak disease (BLSD) in banana: the case of Costa Rica; 3.Freckle disease of banana; 4.Impact, epidemiology and management of Fusarium wilt race 1 and 2 in banana; 5.The past, present and future of Fusarium wilt of banana caused by Tropical Race 4; 6.Towards sustainable management of Fusarium wilt of banana; 7.Minor fungal diseases of banana; **Part 2 Bacterial and phytoplasma diseases;** 8.Moko bacterial wilt of banana; 9.Banana Blood disease; 10.Xanthomonas wilt of banana; 11.Bacterial soft rot of banana; 12.Phytoplasma diseases of banana plants; **Part 3 Viral diseases;** 13.Banana bunchy top virus; 14.Banana streak disease; 15.Other viral pathogens of banana; **Part 4 Nematode pests;** 16.Nematodes in banana; 17.Towards sustainable management of nematodes in banana; **Part 5 Insect pests;** 18.The banana weevil borer; 19.Banana Red Rust thrips; 20.Managing banana bunch pests: towards more ecological approaches; **Part 6 Fruit diseases;** 21.Management of diseases on banana fruit in the field; 22.Postharvest diseases of bananas and their sustainable management



### Achieving sustainable cultivation of bananas – Volume 2 Germplasm and genetic improvement

Editors: Professor Gert H. J. Kema and Professor André Drenth

**This book reviews the current conventional and molecular breeding techniques for breeding new varieties of banana.**

Print ISBN: 978-1-78676-344-0  
Pub. Date: November 2020

eBook ISBN: 978-1-78676-347-1  
Price: £170/\$220/€205

Pages: 426  
Series No: 86



### Achieving sustainable cultivation of bananas – Volume 1 Cultivation techniques

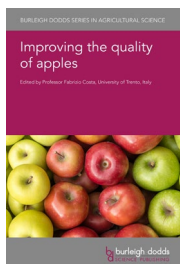
Editors: Professor Gert H. J. Kema and Professor André Drenth

**This volume reviews current banana production around the world and how developments in cultivation practices can be used to improve yields sustainably.**

Print ISBN: 978-1-78676-156-9  
Pub. Date: October 2018

eBook ISBN: 978-1-78676-159-0  
Price: £170/\$220/€205

Pages: 378  
Series No: 40



## Improving the quality of apples

NEW

Editor: Professor Fabrizio Costa, University of Trento, Italy

This book reviews the wealth of recent research undertaken on the factors which can determine the quality of apples, focussing on attributes such as texture and nutritional content. The book also considers how these attributes can be optimised at both the pre- and postharvest stages in the value chain for apples.

Print ISBN: 978-1-80146-321-8

eBook ISBN: 978-1-80146-323-2

Pages: 256

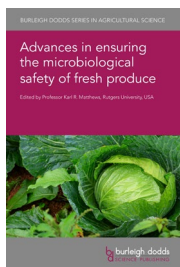
Pub. Date: January 2024

Price: £130/\$170/€155

Series No: 142

### CHAPTER TITLES

**Part 1 Quality attributes;** 1.Consumer perception of apple quality; 2.Advances in understanding texture development in apples; 3.Advances in understanding the nutritional and nutraceutical properties of apples; 4.Advances in understanding the development of nutraceutical compounds in apples; **Part 2 Breeding and crop management to optimise quality;** 5.Incorporating quality traits into apple breeding programmes; 6.Advances in understanding pre-harvest apple fruit development; 7.Advances in pre-harvest management of apple quality; 8.Post-harvest management of apple quality



## Advances in ensuring the microbiological safety of fresh produce

NEW

Editor: Professor Karl R. Matthews, Rutgers University, USA

This book reviews recent research on preventing microbial contamination of fresh fruit and vegetables, from understanding key pathogens to ways of detecting and preventing contamination across the supply chain.

Print ISBN: 978-1-80146-268-6

eBook ISBN: 978-1-80146-270-9

Pages: 414

Pub. Date: August 2023

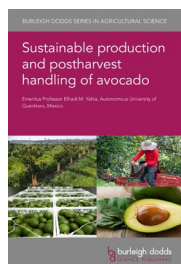
Price: £145/\$190/€175

Series No: 136

### CHAPTER TITLES

**Part 1 Pathogenic risks;** 1.Advances in understanding contamination of fresh produce by *Salmonella*; 2.Advances in understanding and preventing contamination of fresh produce by *Listeria monocytogenes*; 3.Advances in understanding contamination of fresh produce by pathogenic *Escherichia coli*; **Part 2 Detection and risk assessment;** 4.Developments in rapid detection/high throughput screening techniques for identifying pathogens in food; 5.Advances in modelling pathogen behaviour in fresh produce; 6.Advances in quantitative microbiological risk assessment for pathogens in fresh produce; **Part 3 Improving safety along the value chain;** 7.Advances in understanding sources of pathogenic contamination of fresh produce: soil and soil amendments; 8.The role of Good Agricultural Practices (GAPs) in preventing pathogenic microbial contamination of fresh produce; 9.Advances in sanitising techniques and their assessment for assuring the safety of fresh produce; 10.Developments in packaging techniques and their assessment for assuring the safety of fresh produce; 11.The role of good manufacturing practice and hazard analysis and critical control point systems in maintaining the safety of minimally processed fresh produce; 12.Improving safe consumer handling of fresh produce

## HORTICULTURE



### Sustainable production and postharvest handling of avocado

NEW

Author: Emeritus Professor Elhadi M. Yahia, Autonomous University of Querétaro, Mexico

**Based on a lifetime's experience from one of the world's leading experts in the field, this book explores how to optimise the avocado value chain from planting to post-harvest packaging and display.**

Print ISBN: 978-1-80146-725-4

eBook ISBN: 978-1-80146-727-8

Pages: 358

Pub. Date: March 2023

Price: £150/\$195/€180

Series No: 157

#### CHAPTER TITLES

1.Avocado: an introduction to the fruit and its pre- and postharvest processing; 2.Nutritional value, health benefits and uses of avocado; 3.The global avocado industry; 4.Advances in pre-harvest management of avocado; 5.Advances in postharvest physiology, technology and handling of fresh avocado; 6.Postharvest processing of avocado; 7.Trading and marketing of avocado

#### See what others are saying about this book:

***"Sustainable production and postharvest handling of avocado warrants a place on the shelf of every scientist and technician working with or interested in avocados."***  
(Dr Jeffrey K. Brecht, Research Foundation Professor, University of Florida, USA)



### Achieving sustainable turfgrass management

NEW

Editor: Professor Michael Fidanza, Pennsylvania State University, USA

**Turfgrass is required to meet a challenging range of aesthetic, functional and environmental requirements. This book reviews the wealth of recent research addressing key challenges facing the turfgrass industry, including the need to reduce its carbon footprint and contribution to climate change.**

Print ISBN: 978-1-80146-019-4

eBook ISBN: 978-1-80146-022-4

Pages: 688

Pub. Date: January 2023

Price: £165/\$215/€200

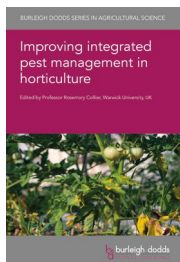
Series No: 125

#### CHAPTER TITLES

**Part 1 Physiology, breeding and cultivation;** 1.Advances in understanding turfgrass physiology; 2.Advances in breeding for improved cultivars of turfgrass; 3.Advances in soil management for successful establishment and maintenance of turfgrass; 4.Advances in phosphite utilization for turfgrass; 5.Advances in irrigation and water management of turfgrass; 6.Advances in maintenance practices of turfgrass; 7.Advances in turfgrass for athletic fields and sports pitches; 8.Advancements in turfgrass for ornamental lawns; **Part 2 Biotic and abiotic stresses;** 9.Advances in turfgrass disease management; 10.Advances in turfgrass insect pest management; 11.Advances in turfgrass weed management; 12.Advances in plant growth regulation in turfgrass; 13.Advances in abiotic stress management in turfgrass; 14.Advances in managing organic matter in turfgrass ecosystems; 15.Advances in biostimulants in turfgrass; **Part 3 Case studies;** 16.Considerations with using unmanned aircraft systems in turfgrass; 17.Considerations with selecting turfgrass varieties and cultivars; 18.Considerations with turfgrasses and pollinators; 19.Considerations with water for turfgrass in arid environments; 20.Considerations with soil testing in turfgrass

*Available as books and chapters, in print and digital formats*





## Improving integrated pest management in horticulture

Editor: Professor Rosemary Collier

**This book reviews current advances in integrated pest management for horticultural crops, including the use of biological control mechanisms, technological developments such as proximal sensors, agronomic practices and physical control.**

Print ISBN: 978-1-78676-753-0

eBook ISBN: 978-1-78676-756-1

Pages: 486

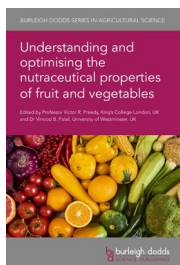
Pub. Date: March 2022

Price: £150/\$195/€180

Series No: 110

### See what others are saying about this book:

**"The work not only presents the state of the art for several aspects of IPM but goes further in analysing the actual issues of efficiency and obstacles for wider application by growers...In conclusion this book is a must-have for horticultural students and scientists. It will certainly help to raise IPM application in horticulture to a higher level."** (Book Review Published in *Chronica Horticulturae* – Dr Peter Bleyaert, Former Research Leader for Glasshouse Crops – Inagro, Belgium)



## Understanding and optimising the nutraceutical properties of fruit and vegetables

Editors: Professor Victor R. Preedy and Dr Vinood B. Patel

**This book reviews research on phytochemicals in fruits and vegetables, their health benefits and ways these benefits can be optimised to improve human health.**

Print ISBN: 978-1-78676-850-6

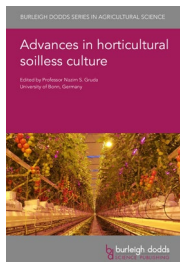
eBook ISBN: 978-1-78676-853-7

Pages: 478

Pub. Date: August 2022

Price: £150/\$195/€180

Series No: 116



## Advances in horticultural soilless culture

Editor: Professor Nazim S. Gruda

**This book reviews current research on optimising substrates for soilless cultivation and assesses recent advances in technologies, such as fertigation systems and process control.**

Print ISBN: 978-1-78676-435-5

eBook ISBN: 978-1-78676-438-6

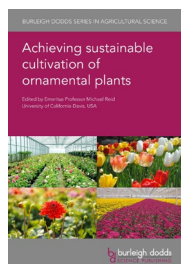
Pages: 442

Pub. Date: February 2021

Price: £160/\$210/€190

Series No: 94

## HORTICULTURE



### Achieving sustainable cultivation of ornamental plants

Editor: Emeritus Professor Michael Reid

**Ornamental plants are plants grown for decorative purposes. This book reviews recent advances in understanding plant physiology, genetic diversity and breeding techniques used in ornamental crop cultivation.**

Print ISBN: 978-1-78676-328-0

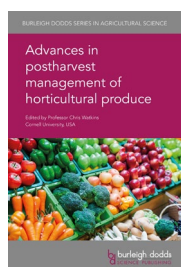
eBook ISBN: 978-1-78676-331-0

Pages: 444

Pub. Date: April 2020

Price: £150/\$195/€180

Series No: 82



### Advances in postharvest management of horticultural produce

Editor: Professor Chris Watkins

**This book reviews advances in preservation and disinfection, monitoring and management techniques to optimise safety and quality of fresh fruit and vegetables.**

Print ISBN: 978-1-78676-288-7

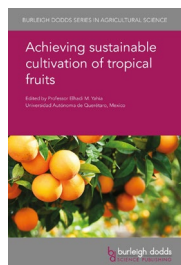
eBook ISBN: 978-1-78676-291-7

Pages: 464

Pub. Date: January 2020

Price: £150/\$195/€180

Series No: 66



### Achieving sustainable cultivation of tropical fruits

Editor: Professor Elhadi M. Yahia

**This book reviews current advances in the breeding and cultivation of key tropical and subtropical fruits, including lime, mandarin, banana, coconut, guava, jackfruit and papaya.**

Print ISBN: 978-1-78676-284-9

eBook ISBN: 978-1-78676-287-0

Pages: 644

Pub. Date: December 2019

Price: £190/\$245/€230

Series No: 65



### Achieving sustainable cultivation of vegetables

Editor: Professor George Hochmuth

**This volume summarises the wealth of research on improving sustainability in vegetable cultivation, focussing on the role of breeding improved varieties to better techniques for cultivation and crop protection.**

Print ISBN: 978-1-78676-236-8

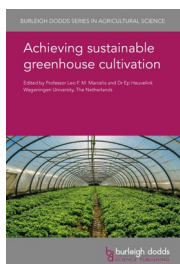
eBook ISBN: 978-1-78676-239-9

Pages: 644

Pub. Date: September 2019

Price: £180/\$235/€215

Series No: 59



## Achieving sustainable greenhouse cultivation

Editors: Professor Leo F. M. Marcelis and Dr Ep Heuvelink

**This book reviews current research in more efficient climate control and root development to optimise the use of greenhouses to offset climate change and optimise resource use.**

Print ISBN: 978-1-78676-280-1

eBook ISBN: 978-1-78676-283-2

Pages: 538

Pub. Date: September 2019

Price: £170/\$220/€205

Series No: 63



## Integrated management of diseases and insect pests of tree fruit

Editors: Professor Xiangming Xu and Dr Michelle Fountain

**This book reviews advances in understanding key diseases and insect pests of tree fruit and shows how this understanding can be used to improve integrated disease and pest management techniques.**

Print ISBN: 978-1-78676-256-6

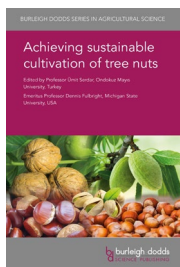
eBook ISBN: 978-1-78676-259-7

Pages: 748

Pub. Date: September 2019

Price: £190/\$245/€230

Series No: 68



## Achieving sustainable cultivation of tree nuts

Editors: Professor Ümit Serdar and Emeritus Professor Dennis Fulbright

**Around four million metric tons of tree nuts are produced each year. This book assesses advances in breeding, cultivation, integrated disease and pest management to improve crop yields and the sustainability of the sector.**

Print ISBN: 978-1-78676-224-5

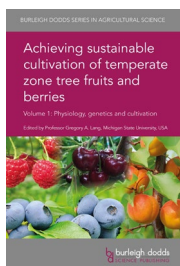
eBook ISBN: 978-1-78676-227-6

Pages: 552

Pub. Date: July 2019

Price: £170/\$220/€205

Series No: 56



## Achieving sustainable cultivation of temperate zone tree fruits and berries – Volume 1: Physiology, genetics and cultivation

Editor: Professor Gregory A. Lang

**This book summarises the wealth of research addressing the current challenges facing temperate fruit cultivation.**

Print ISBN: 978-1-78676-208-5

eBook ISBN: 978-1-78676-211-5

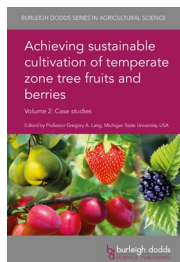
Pages: 520

Pub. Date: June 2019

Price: £140/\$180/€170

Series No: 53

## HORTICULTURE



### Achieving sustainable cultivation of temperate zone tree fruits and berries – Volume 2: Case studies

Editor: Professor Gregory A. Lang

**The second volume in this book reviews advances in breeding and cultivation of key stone, pome and berry fruits.**

Print ISBN: 978-1-78676-212-2

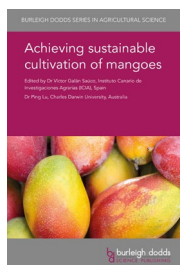
eBook ISBN: 978-1-78676-215-3

Pages: 470

Pub. Date: June 2019

Price: £140/\$180/€170

Series No: 54



### Achieving sustainable cultivation of mangoes

Editors: Dr Victor Galán Saúco and Dr Ping Lu

**This book summarises the wealth of recent research on enhancing mango cultivation and also addresses developments in understanding mango genetics and breeding, as well as cultivation, pest and disease management.**

Print ISBN: 978-1-78676-132-3

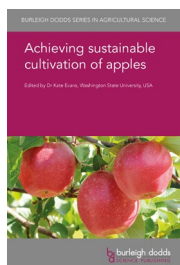
eBook ISBN: 978-1-78676-135-4

Pages: 570

Pub. Date: February 2018

Price: £180/\$235/€215

Series No: 34



### Achieving sustainable cultivation of apples

Editor: Dr Kate Evans

**This book reviews our understanding of tree and fruit physiology and how it can be used in breeding better varieties. It also discusses pests and diseases and ways they can be prevented or controlled to make cultivation more productive.**

Print ISBN: 978-1-78676-032-6

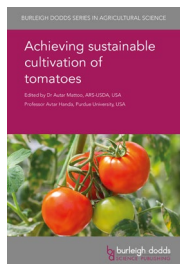
eBook ISBN: 978-1-78676-035-7

Pages: 616

Pub. Date: June 2017

Price: £190/\$245/€230

Series No: 18



### Achieving sustainable cultivation of tomatoes

Editors: Dr Autar Mattoo and Professor Avtar Handa

**This book reviews key developments in tomato breeding, including developing improved varieties with desirable traits such as drought or pest resistance. It also discusses ways of improving pest and disease control in tomato cultivation.**

Print ISBN: 978-1-78676-040-1

eBook ISBN: 978-1-78676-043-2

Pages: 564

Pub. Date: March 2017

Price: £180/\$235/€215

Series No: 07

## BEVERAGE & SUGAR CROPS



### Climate-smart production of coffee

Improving social and environmental sustainability

Editor: Professor Reinhold Muschler, CATIE, Costa Rica

The book considers ways of assessing and improving social sustainability, including the role of speciality coffees in improving smallholder incomes, as well as ways coffee production can be optimised throughout the value chain.

Print ISBN: 978-1-78676-483-6

eBook ISBN: 978-1-78676-486-7

Pages: 480

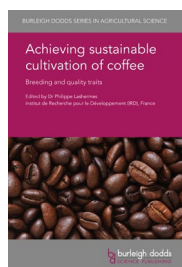
Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 111

### CHAPTER TITLES

**Part 1 Improving social and environmental sustainability;** 1.Global coffee production and sustainability; 2.The coffee sector and smallholder farmers; 3.Assessing and managing the environmental and social impact of coffee production; 4.Specialty coffees as drivers of change; 5.Fair-trade coffee: how fair is fair?; 6.Advances in Arabica coffee breeding: developing and selecting the right varieties; 7.Optimizing post-harvest practices in coffee cultivation; **Part 2 Sustainable pest and disease management;** 8.Insect pests affecting coffee: understanding agroecosystems and alternative methods of control; 9.Diseases affecting coffee: an overview; 10.Ecological perspectives on the coffee leaf rust; 11.Coffee wilt disease; 12.Integrated management of nematodes of coffee; 13.Integrated management of soil-borne insect and fungal pests of coffee; 14.Integrated weed management in coffee production



### Achieving sustainable cultivation of coffee

Breeding and quality traits

Editor: Dr Philippe Lashermes, Institut de Recherche pour le Développement (IRD), France

This volume summarises research addressing key challenges in coffee cultivation, including genetic diversity and breeding improved varieties.

Print ISBN: 978-1-78676-152-1

eBook ISBN: 978-1-78676-155-2

Pages: 410

Pub. Date: January 2018

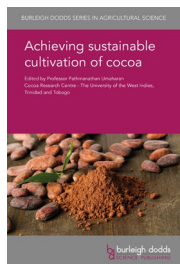
Price: £170/\$220/€205

Series No: 39

### CHAPTER TITLES

**Part 1 Plant physiology and breeding;** 1.Diversity and genome evolution in coffee; 2.Coffee tree growth and environmental acclimation; 3.Environmental and genetic effects on coffee seed biochemical composition and quality; 4.Ensuring the genetic diversity of coffee; 5.Developing varieties of Arabica coffee; 6.Developing varieties of Robusta coffee; 7.Developments in molecular breeding techniques in Robusta coffee; 8.Breeding caffeine-free coffee beans; 9.Disseminating improved coffee varieties for sustainable production; **Part 2 Quality traits;** 10.Chemical composition of coffee beans: an overview; 11.Bioactive compounds in coffee beans with beneficial health properties; 12.Beneficial compounds from coffee leaves; 13.Nutritional and health effects of coffee; 14.Advances in research on coffee flavour compounds; 15.Harmful compounds in coffee; 16.Flavour as the common thread for coffee quality along the value chain; 17.Metabolomics as a powerful tool for coffee authentication; 18.Life cycle analysis and the carbon footprint of coffee value chains

## BEVERAGE & SUGAR CROPS



### Achieving sustainable cultivation of cocoa

Editor: Professor Pathmanathan Umaharan

**This volume reviews the main challenges affecting sustainable cocoa cultivation, including stagnating yields, a narrow genetic base, vulnerability to pests and diseases and its environmental impact.**

Print ISBN: 978-1-78676-168-2

eBook ISBN: 978-1-78676-171-2

Pages: 588

Pub. Date: August 2018

Price: £190/\$245/€230

Series No: 43



### Global tea science

#### Current status and future needs

Editors: Dr V. S. Sharma and Dr M. T. Kumudini Gunasekare

**This book considers the methods available for improving the cultivation of tea at each step in the value chain, from breeding through to harvest.**

Print ISBN: 978-1-78676-160-6

eBook ISBN: 978-1-78676-163-7

Pages: 558

Pub. Date: February 2018

Price: £180/\$235/€215

Series No: 41



### Achieving sustainable cultivation of sugarcane – Volume 1

#### Cultivation techniques, quality and sustainability

Editor: Professor Philippe Rott

**This volume reviews key research on improving sugarcane production, focussing on enhancing cultivation techniques and measuring and improving sustainability.**

Print ISBN: 978-1-78676-144-6

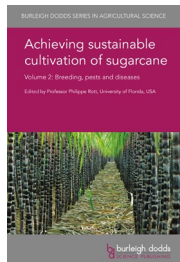
eBook ISBN: 978-1-78676-147-7

Pages: 360

Pub. Date: November 2017

Price: £160/\$210/€190

Series No: 37



### Achieving sustainable cultivation of sugarcane – Volume 2

#### Breeding, pests and diseases

Editor: Professor Philippe Rott

**The second volume considers the range of challenges facing sugarcane cultivation, including the need to improve yields more sustainably.**

Print ISBN: 978-1-78676-148-4

eBook ISBN: 978-1-78676-151-4

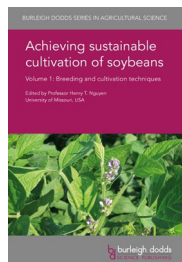
Pages: 468

Pub. Date: March 2018

Price: £170/\$220/€205

Series No: 38

## OIL BEARING CROPS



### Achieving sustainable cultivation of soybeans – Volume 1 Breeding and cultivation techniques

Editor: Professor Henry T. Nguyen

**This first volume reviews advances in understanding of soybean physiology and genetics as well as breeding and more efficient methods of cultivation.**

Print ISBN: 978-1-78676-112-5

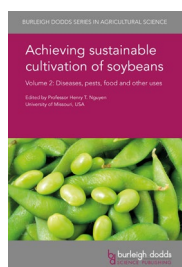
eBook ISBN: 978-1-78676-115-6

Pages: 340

Pub. Date: May 2018

Price: £140/\$180/€170

Series No: 29



### Achieving sustainable cultivation of soybeans – Volume 2 Diseases, pests, food and other uses

Editor: Professor Henry T. Nguyen

**The second volume reviews advances in understanding and managing the range of diseases and pests that cause significant crop losses in soybean production.**

Print ISBN: 978-1-78676-116-3

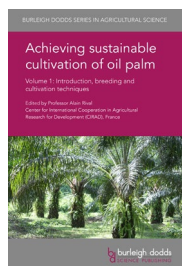
eBook ISBN: 978-1-78676-119-4

Pages: 286

Pub. Date: February 2018

Price: £140/\$180/€170

Series No: 30



### Achieving sustainable cultivation of oil palm – Volume 1 Introduction, breeding and cultivation techniques

Editor: Professor Alain Rival

**There is an urgent need to make oil palm cultivation more environmentally sustainable. This book reviews the key research addressing this challenge.**

Print ISBN: 978-1-78676-104-0

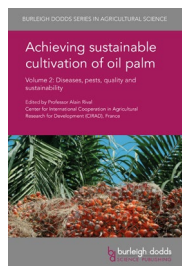
eBook ISBN: 978-1-78676-107-1

Pages: 306

Pub. Date: February 2018

Price: £140/\$180/€170

Series No: 27



### Achieving sustainable cultivation of oil palm – Volume 2 Diseases, pests, quality and sustainability

Editor: Professor Alain Rival

**The second volume reviews advances in understanding and managing fungal and other diseases affecting oil palm, as well as insect pests.**

Print ISBN: 978-1-78676-108-8

eBook ISBN: 978-1-78676-111-8

Pages: 462

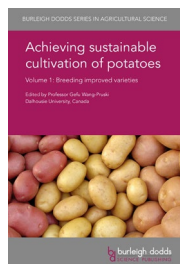
Pub. Date: March 2018

Price: £160/\$210/€190

Series No: 28



## ROOTS, TUBERS & PULSES



### Achieving sustainable cultivation of potatoes – Volume 1 Breeding improved varieties

Editor: Professor Gefu Wang-Pruski

The first volume in this two-volume sequence reviews advances in understanding plant physiology, genetics and breeding. It also discusses ways of understanding the nutritional and sensory properties of potatoes.

Print ISBN: 978-1-78676-100-2

eBook ISBN: 978-1-78676-103-3

Pages: 320

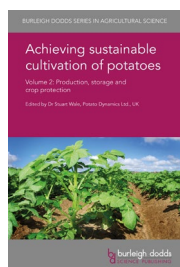
Pub. Date: August 2018

Price: £150/\$195/€180

Series No: 26

#### CHAPTER TITLES

**Part 1 Plant physiology and breeding;** 1.Advances in understanding potato plant physiology and growth; 2.Understanding ageing processes in seed potatoes; 3.Ensuring the genetic diversity of potatoes; 4.Advances in conventional potato-breeding techniques; 5.Hybrid potato breeding for improved varieties; **Part 2 Improving particular traits;** 6.Advances in development of potato varieties resistant to abiotic stress; 7.Developing early-maturing, stress-resistant potato varieties; 8.Developing new sweet potato varieties with improved performance; 9.Nutritional properties and enhancement/bio-fortification of potatoes; 10.Improving the breeding, cultivation and use of sweetpotato in Africa; **Part 3 Translating research into practice: improving cultivation in the developing world;** 11.Potato production and breeding in China; 12.Improving potato cultivation to promote food self-sufficiency in Africa; 13.Supporting smallholder women farmers in potato cultivation



### Achieving sustainable cultivation of potatoes – Volume 2 Production, storage and crop protection

Editor: Dr Stuart Wale

The second of this two-volume book discusses ways of improving cultivation across the supply chain from seed selection and planting to post-harvest storage. It also reviews research on the better understanding and management of key pests and diseases.

Print ISBN: 978-1-78676-128-6

eBook ISBN: 978-1-78676-131-6

Pages: 328

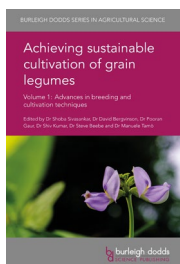
Pub. Date: September 2018

Price: £160/\$210/€190

Series No: 33

#### CHAPTER TITLES

**Part 1 Potato production and storage;** 1.Modelling potato growth; 2.Improving potato cultivation practices: an overview; 3.Improving nutrient management in potato cultivation; 4.Advances in irrigation management and technology in potato cultivation: experiences from a humid climate; 5.Organic potato cultivation; 6.Post-harvest storage of potatoes; 7.Acrylamide formation in fried potato products and its mitigation; **Part 2 Diseases and pests;** 8.Fungal diseases affecting potato storage; 9.Bacterial diseases affecting potatoes; 10.Viruses affecting potatoes; 11.Non-infectious disorders affecting potatoes; 12.Nematode pests of potatoes; 13.Potato pest management with specific reference to the Pacific Northwest (USA)



## Achieving sustainable cultivation of grain legumes – Volume 1

### Advances in breeding and cultivation techniques

Editors: Dr Shoba Sivasankar, et al.

**This first book in this two-volume collection summarises recent advances in understanding crop physiology and genetic diversity.**

Print ISBN: 978-1-78676-000-5

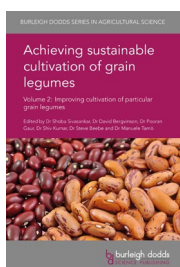
eBook ISBN: 978-1-78676-003-6

Pages: 424

Pub. Date: July 2017

Price: £160/\$210/€190

Series No: 20



## Achieving sustainable cultivation of grain legumes – Volume 2

### Improving cultivation of particular grain legumes

Editors: Dr Shoba Sivasankar, et al.

**The second book in this collection focusses on improving the cultivation of particular grain legumes, such as common beans, lentils, cowpea and soybeans.**

Print ISBN: 978-1-78676-000-5

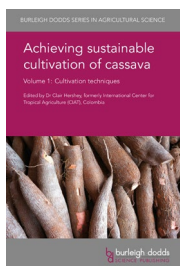
eBook ISBN: 978-1-78676-003-6

Pages: 424

Pub. Date: July 2017

Price: £160/\$210/€190

Series No: 20



## Achieving sustainable cultivation of cassava – Volume 1

### Cultivation techniques

Editor: Dr Clair Hershey

**This book focuses on ways of improving the cultivation of cassava at each step in the value chain, from breeding to post-harvest storage.**

Print ISBN: 978-1-78676-000-5

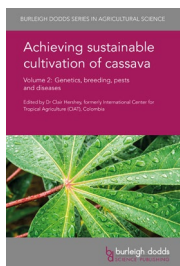
eBook ISBN: 978-1-78676-003-6

Pages: 424

Pub. Date: July 2017

Price: £160/\$210/€190

Series No: 20



## Achieving sustainable cultivation of cassava – Volume 2

### Genetics, breeding, pests and diseases

Editor: Dr Clair Hershey

**This second volume reviews breeding techniques and their use to produce varieties with traits such as enhanced resistance to biotic and abiotic stresses.**

Print ISBN: 978-1-78676-004-3

eBook ISBN: 978-1-78676-007-4

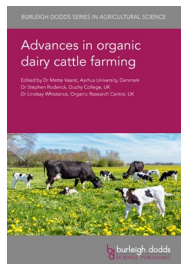
Pages: 322

Pub. Date: August 2017

Price: £140/\$180/€170

Series No: 21

## DAIRY



## Advances in organic dairy cattle farming

NEW

Editors: Dr Mette Vaarst, Aarhus University, Denmark, Dr Stephen Roderick, Duchy College, UK and Dr Lindsay Whistance, Organic Research Center, UK

**This book reviews the wealth of recent research on how organic dairy farming can best meet the key organic principles of health, ecology, fairness and care.**

Print ISBN: 978-1-80146-538-0

eBook ISBN: 978-1-80146-540-3

Pages: 400

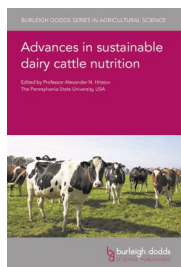
Pub. Date: October 2024

Price: £150/\$195/€180

Series No: 153

## CHAPTER TITLES

1.Introduction: understanding the diversity of organic dairy farming in Europe; **Part 1 Improving breeding and nutrition**; 2.Optimising breeding and genetic diversity in organic and low-input dairy farming; 3.Optimising soils, pasture and grasslands for organic dairy farming; 4.Assessing and optimising organic milk quality; **Part 2 Improving health, welfare and life opportunities**; 5.One-welfare perspectives on organic dairy farming; 6.The lives of calves from organic dairy farms; 7.Improving herd health management and disease prevention in organic dairy cattle; 8.The use of plant bio-active compounds and other alternative therapeutic strategies in organic dairy farming; 9.Improving the management of parasites in organic dairy farming; 10.An ethical framework for the use of technologies on organic dairy farming; **Part 3 Improving sustainability**; 11.Optimising integration of dairy cows into a resilient whole farm context; 12.How can organic dairy farming address and improve biodiversity and healthy ecosystems?; 13.Understanding consumer attitudes and market structures around organic/low-input dairy farming; 14.The role of organic dairy farming in the development of sustainable food, ecological and social systems



## Advances in sustainable dairy cattle nutrition

NEW

Editor: Professor Alexander N. Hristov, The Pennsylvania State University, USA

**Global demand for milk and other dairy products continues to grow. As a result, the sector's greenhouse gas emissions have risen drastically. This book reviews the recent advances in understanding and improving dairy cattle nutrition to reduce the carbon footprint of the dairy sector.**

Print ISBN: 978-1-80146-205-1

eBook ISBN: 978-1-80146-208-2

Pages: 436

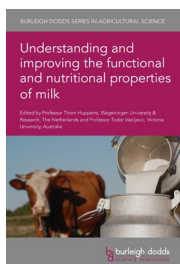
Pub. Date: March 2023

Price: £150/\$195/€180

Series No: 133

## CHAPTER TITLES

**Part 1 Nutritional requirements**; 1.Advances in understanding carbohydrate requirements and utilization in dairy cattle; 2.Advances in understanding protein requirements and utilization in dairy cattle; 3.Advances in understanding lipid requirements and utilization in dairy cattle; **Part 2 The use of dietary supplements to optimise dairy cattle nutrition: plant extracts**; 4.The use of plant extracts as dietary supplements in dairy cow nutrition: plant essential oils; 5.The use of tannins as dietary supplements in dairy cattle nutrition; 6.The use of plant extracts as dietary supplements in dairy cow nutrition: saponins; **Part 3 The use of direct-fed microbials (DFM) and other supplements to optimise nutrition**; 7.The use of bacterial probiotics and direct-fed microbials as dietary supplements in dairy cow nutrition; 8.The use of exogenous enzymes as dietary supplements in dairy cow nutrition; 9.Amino acids in dairy nutrition: enhancing milk protein synthesis and beyond; 10.The use of supplements to mitigate enteric methane emission in dairy cattle; **Part 4 Assessing alternative feed sources from agricultural co-products**; 11.Assessing alternative fiber sources from by-products; 12.Assessing alternative protein sources from by-products



## Understanding and improving the functional and nutritional properties of milk

Editors: Professor Thom Huppertz and Professor Todor Vasiljevic

**This book reviews the latest research on the remarkable range of functional and nutritional properties of milk.**

Print ISBN: 978-1-78676-819-3

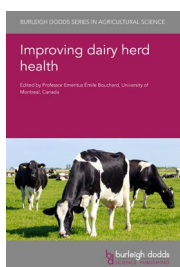
eBook ISBN: 978-1-78676-822-3

Pages: 774

Pub. Date: March 2022

Price: £160/\$210/€190

Series No: 114



## Improving dairy herd health

Editor: Professor Emeritus Émile Bouchard

**This volume reviews advances in on-farm herd health management to prevent and limit disease amongst dairy cattle. It also surveys advances in disease epidemiology and monitoring.**

Print ISBN: 978-1-78676-467-6

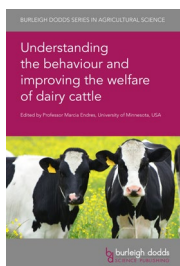
eBook ISBN: 978-1-78676-470-6

Pages: 490

Pub. Date: July 2021

Price: £150/\$195/€180

Series No: 102



## Understanding the behaviour and improving the welfare of dairy cattle

Editor: Professor Marcia Endres

**This book reviews the wealth of research on understanding dairy cattle behaviour, monitoring their welfare and improving current welfare practices.**

Print ISBN: 978-1-78676-459-1

eBook ISBN: 978-1-78676-462-1

Pages: 274

Pub. Date: February 2021

Price: £150/\$195/€180

Series No: 98



## Improving rumen function

Editors: Dr C. S. McSweeney and Professor R. I. Mackie

**This book reviews what we know about rumen microbiota and the role of nutritional strategies in optimising their function for more sustainable livestock production.**

Print ISBN: 978-1-78676-332-7

eBook ISBN: 978-1-78676-335-8

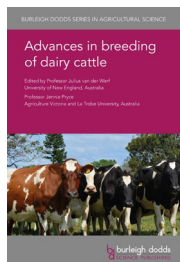
Pages: 862

Pub. Date: June 2020

Price: £190/\$245/€230

Series No: 83

## DAIRY

**Advances in breeding of dairy cattle**

Editors: Professor Julius van der Werf and Professor Jennie Pryce

**Dairy cattle breeding faces several major challenges. This book reviews the latest research on genetics, genetic diversity and advanced methods of genetic evaluation and selection.**

Print ISBN: 978-1-78676-296-2

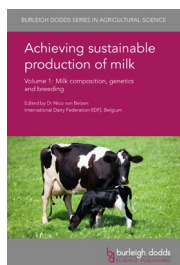
eBook ISBN: 978-1-78676-299-3

Pages: 658

Pub. Date: December 2019

Price: £180/\$235/€215

Series No: 72

**Achieving sustainable production of milk – Volume 1****Milk composition, genetics and breeding**

Editor: Dr Nico van Belzen

**This first volume provides a detailed review of current research on key components and quality traits of milk as well as ways of measuring milk quality.**

Print ISBN: 978-1-78676-044-9

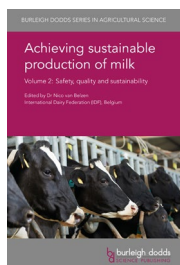
eBook ISBN: 978-1-78676-047-0

Pages: 360

Pub. Date: March 2017

Price: £150/\$195/€180

Series No: 08

**Achieving sustainable production of milk – Volume 2****Safety, quality and sustainability**

Editor: Dr Nico van Belzen

**The second volume in this three-volume book reviews current research on understanding and managing the major pathogens present on dairy farms.**

Print ISBN: 978-1-78676-048-7

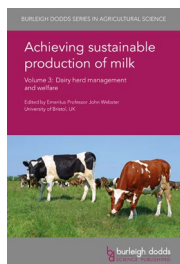
eBook ISBN: 978-1-78676-051-7

Pages: 432

Pub. Date: June 2017

Price: £170/\$220/€205

Series No: 09

**Achieving sustainable production of milk – Volume 3****Dairy herd management and welfare**

Editor: Emeritus Professor John Webster

**This third and final volume looks at the key issues affecting dairy herd welfare as well as ways of optimising dairy cattle nutrition.**

Print ISBN: 978-1-78676-052-4

eBook ISBN: 978-1-78676-055-5

Pages: 606

Pub. Date: August 2017

Price: £190/\$245/€230

Series No: 10

## POULTRY

**Improving poultry meat safety and sustainability****NEW**

Editor: Professor Steven C. Ricke, University of Wisconsin-Madison, USA

**This book provides a comprehensive overview of how best to deal with zoonotic diseases which continue to threaten poultry meat safety, focussing on the major food pathogens, *Campylobacter*, *Salmonella* and *Escherichia coli*.**

Print ISBN: 978-1-80146-789-6

eBook ISBN: 978-1-80146-791-9

Pages: 400

Pub. Date: October 2024

Price: £150/\$195/€180

Series No: 161

## CHAPTER TITLES

**Part 1 Zoonotic and other hazards;** 1. *Campylobacter* in poultry meat; 2. *Salmonella* in poultry meat; 3. *Escherichia coli* in poultry meat; **Part 2 Pre-harvest safety management on the farm;** 4. Advances in rapid detection of zoonotic pathogens in poultry production and processing environments; 5. Safety/biosecurity measures to prevent zoonotic and other diseases in poultry farm environments; 6. Understanding and dealing with antibiotic resistance in poultry production; 7. Alternatives to antibiotics in preventing zoonoses in poultry: feed additives; 8. Optimising safety in free-range/organic poultry meat production; **Part 3 Postharvest control along the poultry supply chain;** 9. Safety management and monitoring in poultry slaughter operations; 10. Inspection of poultry processing operations; 11. Advances in chilling and freezing of poultry meat to optimise safety and quality; 12. Advances in packaging of fresh poultry meat to optimise safety and quality; 13. Advances in microbiological assessment of shelf life and spoilage of poultry meat; **Part 4 Sustainability;** 14. Life cycle assessment of poultry meat production; 15. Feed formulation to minimise environmental impact of poultry production; 16. Managing poultry litter to improve safety and reduce environmental impact

**Advances in poultry nutrition****NEW**

Editor: Professor Todd J. Applegate, University of Georgia, USA

**This book provides a comprehensive overview of the range of research on recent advances in poultry nutrition, focussing primarily on broilers for meat production. The book also reviews the development of novel feed sources and their role in optimising gut function in poultry.**

Print ISBN: 978-1-80146-731-5

eBook ISBN: 978-1-80146-733-9

Pages: 500

Pub. Date: June 2024

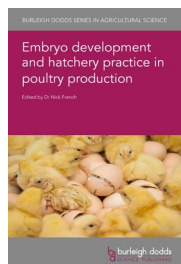
Price: £160/\$210/€190

Series No: 159

## CHAPTER TITLES

**Part 1 Physiology of feed intake;** 1. Advances in understanding the nutrient requirements of broilers: an overview; 2. Advances in understanding poultry digestive physiology; 3. Poultry feedstuff digestive kinetics; 4. Advances in understanding poultry feed intake regulation; 5. Advances in understanding the cellular basis of feed efficiency in poultry muscle; 6. Genetic factors affecting feed conversion efficiency in broilers; **Part 2 Feed formulation;** 7. Maintaining the safety of poultry feed; 8. Feedstuff management and feed formulation utilizing big data; 9. Advances in poultry breeder nutrition; **Part 3 Individual nutrients/additives;** 10. Advances in understanding and improving the use of amino acids in poultry nutrition; 11. Advances in understanding and improving energetics and caloric efficiency in poultry nutrition; 12. Advances in understanding and improving the use of enzymes in poultry nutrition; 13. Advances in understanding and improving the use of macro-minerals in poultry nutrition; 14. The use of probiotics and prebiotics to improve gut function and immunity in poultry; **Part 4 Novel feed sources;** 15. Alternative sources of protein for poultry nutrition: an overview; 16. Developing macroalgae/seaweed and microalgae as feed for poultry; 17. Advances in synthetic biology to produce poultry feed additives; 18. Corn fermented protein from the dry grind ethanol industry as an alternative feed protein for poultry

## POULTRY



## Embryo development and hatchery practice in poultry production

NEW

Editor: Dr Nick French

This book reviews the latest research on embryo development, as well as the effects of incubation and the hatching stage on chick health, welfare and production traits.

Print ISBN: 978-1-80146-252-5

eBook ISBN: 978-1-80146-254-9

Pages: 504

Pub. Date: May 2023

Price: £150/\$195/€180

Series No: 134

### CHAPTER TITLES

**Part 1 Parental influences and embryo development;** 1.Genetic selection to improve reproductive traits in chickens; 2.Managing breeder poultry flocks to optimise hatchability and chick health; 3.Advances in understanding the development of defences against pathogens in the chicken egg; 4.Assessing poultry semen quality; 5.Key stages of embryo development in poultry; 6.Chicken egg storage and transport; 7.In ovo sexing in poultry chicks; 8.In ovo vaccination of chicken eggs; **Part 2 Incubation;** 9.Incubator design for poultry eggs: principles and techniques; 10.Understanding the effects of incubator temperature on embryo and post-hatch chick development; 11.Understanding the effects of light on embryo and post-hatch chick development; 12.Understanding the effects of humidity/air composition on embryo and post-hatch chick development; 13.The role of egg turning in embryo development; 14.Poultry embryo development and skeletal growth; **Part 3 Managing the hatching stage;** 15.Managing the poultry hatcher environment; 16.Alternative hatching systems for broilers; 17.Key issues in transportation of broiler and layer chicks



## Improving poultry meat quality

Editors: Professor Massimiliano Petracci, Alma Mater Studiorum – Università di Bologna, Italy and Dr Mario Estévez, Universidad de Extremadura, Spain

This book summarises recent research on genetic and environmental factors affecting the development of quality traits in poultry meat and their implications for breeding, husbandry and postharvest processing.

Print ISBN: 978-1-80146-103-0

eBook ISBN: 978-1-80146-106-1

Pages: 414

Pub. Date: December 2022

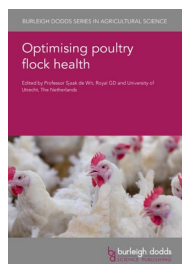
Price: £150/\$195/€180

Series No: 127

### CHAPTER TITLES

**Part 1 Poultry muscle development and meat quality;** 1.Advances in understanding the development and morphology of the poultry breast muscle: impact on meat quality; 2.Understanding the genetics of poultry muscle development; 3.Nutritional strategies and management practices to improve poultry meat quality; **Part 2 Individual quality attributes: sensory, nutrition and health;** 4.Advances in understanding color development in poultry meat; 5.Understanding texture development in poultry meat; 6.Advances in understanding flavour development in poultry meat; **Part 3 Poultry myopathies and shelf life;** 7.Breast meat abnormalities associated with ischaemic necrosis: dorsal cranial myopathy and deep pectoral myopathy; 8.Quality defects associated with poultry muscle development: pale, soft and exudative meat; 9.Quality defects associated with poultry muscle development: white striping; 10.Quality defects associated with poultry muscle development: wooden breast; 11.Quality defects associated with poultry muscle development: spaghetti meat; 12.Factors affecting shelf life of poultry meat





## Optimising poultry flock health

Editor: Professor Sjaak de Wit

**This book reviews the range of recent research on improving our understanding of the mechanisms of disease transmission and how this knowledge can be used to improve poultry flock health.**

Print ISBN: 978-1-78676-887-2

eBook ISBN: 978-1-78676-890-2

Pages: 414

Pub. Date: September 2022

Price: £150/\$195/€180

Series No: 119

### See what others are saying about this book:

**"The result is a refreshing balance between readability and practicality, underpinned by true science and the appliance of science... as a comprehensive resource on the breadth of information available with the combination of general principles, up-to-date advice, coupled with an excellent provision of further reading and resources for every chapter, makes this an essential addition to any poultry library!"** (Book Review Published in *Avian Pathology* – Dr Stephen A. Lister, Crowshall Veterinary Services, Attleborough, UK)



## Understanding the behaviour and improving the welfare of chickens

Editor: Professor Christine Nicol

**This book reviews recent research on understanding chicken behaviour, as well as the technologies currently available to monitor this behaviour.**

Print ISBN: 978-1-78676-422-5

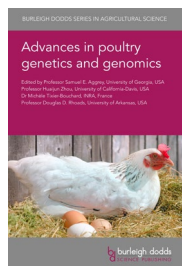
eBook ISBN: 978-1-78676-425-6

Pages: 688

Pub. Date: September 2020

Price: £170/\$220/€205

Series No: 91



## Advances in poultry genetics and genomics

Editors: Professor Samuel E. Aggrey, Professor Huaijun Zhou, Dr Michèle Tixier-Boichard and Professor Douglas D. Rhoads

**This volume addresses the key advances in genomic selection and their practical application in breeding improved breeds of layers and broilers.**

Print ISBN: 978-1-78676-324-2

eBook ISBN: 978-1-78676-327-3

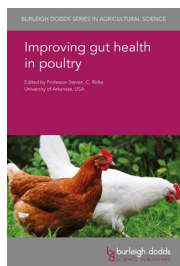
Pages: 580

Pub. Date: July 2020

Price: £190/\$245/€230

Series No: 79

## POULTRY

**Improving gut health in poultry**

Editor: Professor Steven C. Ricke

**This book summarises current research on the composition and function of the gastrointestinal tract in poultry, the factors that affect its function, and nutritional strategies to optimise poultry nutrition and health.**

Print ISBN: 978-1-78676-304-4

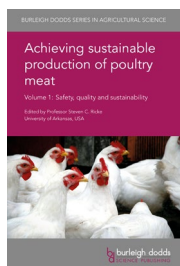
eBook ISBN: 978-1-78676-307-5

Pages: 546

Pub. Date: November 2019

Price: £180/\$235/€215

Series No: 73

**Achieving sustainable production of poultry meat – Volume 1****Safety, quality and sustainability**

Editor: Professor Steven C. Ricke

**This volume discusses the main pathogens affecting poultry production, as well as how meat quality traits can be optimised to meet consumer expectations.**

Print ISBN: 978-1-78676-064-7

eBook ISBN: 978-1-78676-067-8

Pages: 502

Pub. Date: January 2017

Price: £180/\$235/€215

Series No: 13

**Achieving sustainable production of poultry meat – Volume 2****Breeding and nutrition**

Editor: Professor Todd Applegate

**This book discusses the recent significant advances in poultry breeding and nutrition, focussing on key developments such as marker-assisted breeding.**

Print ISBN: 978-1-78676-068-5

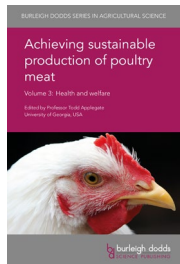
eBook ISBN: 978-1-78676-071-5

Pages: 342

Pub. Date: July 2017

Price: £150/\$195/€180

Series No: 14

**Achieving sustainable production of poultry meat – Volume 3****Health and welfare**

Editor: Professor Todd Applegate

**This book reviews our understanding of bacterial, viral and other diseases affecting poultry and their effective management.**

Print ISBN: 978-1-78676-072-2

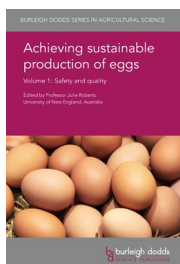
eBook ISBN: 978-1-78676-075-3

Pages: 350

Pub. Date: August 2017

Price: £160/\$210/€190

Series No: 15



## Achieving sustainable production of eggs – Volume 1

### Safety and quality

Editor: Professor Julie Roberts

**This first volume considers recent developments in understanding egg composition and chemistry, as well as the key pathogens in eggs.**

Print ISBN: 978-1-78676-076-0

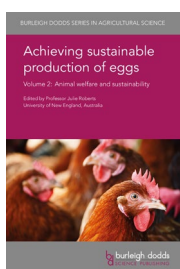
eBook ISBN: 978-1-78676-079-1

Pages: 430

Pub. Date: March 2017

Price: £170/\$220/€205

Series No: 16



## Achieving sustainable production of eggs – Volume 2

### Animal welfare and sustainability

Editor: Professor Julie Roberts

**This second volume reviews nutrition and other aspects of husbandry affecting laying hens, as well as how egg production can be made more sustainable.**

Print ISBN: 978-1-78676-080-7

eBook ISBN: 978-1-78676-083-8

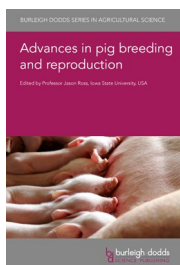
Pages: 234

Pub. Date: February 2017

Price: £130/\$170/€155

Series No: 17

## PIGS



## Advances in pig breeding and reproduction

**NEW**

Editor: Professor Jason Ross, Iowa State University, USA

**This book reviews the wealth of research on recent developments in pig breeding, including the shift from a primary focus on production traits to traits encompassing improved feed efficiency and disease resistance.**

Print ISBN: 978-1-80146-535-9

eBook ISBN: 978-1-80146-537-3

Pages: 400

Pub. Date: September 2024

Price: £150/\$195/€180

Series No: 152

### CHAPTER TITLES

**Part 1 Pig breeding;** 1.Assessing pig genetic diversity; 2.Advances in understanding and exploiting the pig genome; 3.Advances in marker assisted selection in pig breeding; 4.Advances in understanding the genetics of and breeding for improved production traits in pigs; 5.Advances in understanding the genetics of and breeding for improved feed efficiency in pigs; 6.Advances in understanding genetics of and breeding for improved disease resistance in pigs; 7.Understanding the genetics for improved sustainability and environmental footprint of pork production; 8.The role of genetic technologies in advancing precision livestock management of pigs; **Part 2 Reproduction;** 9.Advances in understanding the genetics of and breeding for improved fertility/reproductive performance in pigs; 10.Improving the reproductive efficiency of boars; 11.Managing gilts to optimise reproductive efficiency; 12.Understanding ovarian function in pigs; 13.Tools and strategies for optimizing the reproductive performance of sows; 14.Reproductive biotechnologies and how they can be used to accelerate genetic progress; 15.Improving piglet survival; 16.Nutritional strategies to optimize reproductive performance of the highly prolific sow; 17. Advances in the genetic improvement of sow longevity; 18.Herd health management strategies to optimize sow reproductive performance: barriers and opportunities

## PIGS

**Advances in pig nutrition****NEW**

Editor: Professor Julian Wiseman, University of Nottingham, UK

**This book reviews the wealth of research addressing the major challenges facing pig nutrition, including the need to meet the changing needs of animals as they grow whilst minimising environmentally damaging nutrient losses, as well as improving feed conversion efficiency and finding more sustainable feed sources.**

Print ISBN: 978-1-80146-694-3

eBook ISBN: 978-1-80146-696-7

Pages: 400

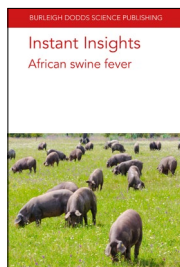
Pub. Date: May 2024

Price: £150/\$195/€180

Series No: 155

## CHAPTER TITLES

**Part 1 Feed intake;** 1.Advances in understanding pig nutritional requirements and metabolism: an overview; 2.Advances in understanding pig digestive physiology; **Part 2 Feed formulation;** 3.Developing nutritional guidelines for pigs; 4.Modelling feed requirements for pigs; 5.New approaches for determining the nutritional value of pig feed; 6.Ensuring pig feed safety; **Part 3 The role of feed additives in optimising pig nutrition;** 7.Understanding and optimizing the use of amino acids in pig nutrition; 8.Understanding and optimizing the use of probiotics and prebiotics in pig nutrition; 9.Understanding and optimizing the use of exogenous enzymes in pig nutrition; **Part 4 Alternative feed sources;** 10.Developing alternative sources of feed for pigs: an overview; 11.Developing alternative sources of protein in pig nutrition: insects; 12.Developing feed sources in organic pig production; 13.Corn fermented protein from the dry grind ethanol industry as an alternative feed protein for swine

**Instant Insights: African swine fever****NEW**

Authors: Youming Wang, Lu Gao, Sandra Blome, Silvia Bellini, Douglas P. Gladue and Manuel V. Borca

**This book reviews key aspects of understanding, tracking and preventing African swine fever. It considers the causes and epidemiology of the disease, identification and surveillance, as well as recent research efforts on developing a vaccine.**

Print ISBN: 978-1-78676-861-2

eBook ISBN: 978-1-78676-862-9

Pages: 90

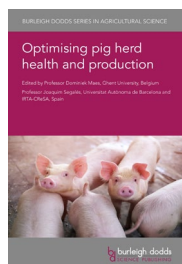
Pub. Date: October 2023

Price: £37.99/\$49.99/€45.99

Series No: 9

## CHAPTER TITLES

- 1.Advances in understanding the characteristics and epidemiology of African swine fever: *Youming Wang and Lu Gao, China Animal Health and Epidemiology Centre (CAHEC), China*
- 2.Advances in surveillance and diagnostic techniques for tracking the spread of African swine: *Sandra Blome, Federal Research Institute for Animal Health – Friedrich Loeffler Institute, Germany*
- 3.Risk-based measures for prevention and control of African swine fever (ASF) in pigs: *Silvia Bellini, Istituto Zooprofilattico Sperimentale della Lombardia ed Emilia-Romagna (IZSLER), Italy*
- 4.Advances in finding a vaccine for African swine fever: *Douglas P. Gladue and Manuel V. Borca, Plum Island Animal Disease Center and Center of Excellence for African Swine Fever Genomics, USA*



## Optimising pig herd health and production

Editors: Professor Dominiek Maes and Professor Joaquim Segalés

**This book summarises the wealth of research on optimising pig health to prevent the occurrence and spread of major diseases known to the pig industry, such as African Swine Fever.**

Print ISBN: 978-1-78676-883-4

eBook ISBN: 978-1-78676-886-5

Pages: 596

Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 118



## Understanding gut microbiomes as targets for improving pig gut health

Editors: Professor Mick Bailey and Emeritus Professor Chris Stokes

**This book summarises current research on the structure and function of the gastrointestinal tract in pigs and the factors that can influence its effectiveness.**

Print ISBN: 978-1-78676-487-4

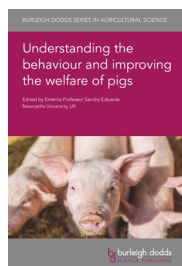
eBook ISBN: 978-1-78676-490-4

Pages: 504

Pub. Date: January 2022

Price: £150/\$195/€180

Series No: 103



## Understanding the behaviour and improving the welfare of pigs

Editor: Emerita Professor Sandra Edwards

**This book reviews the genetic and developmental factors that affect pig behaviour and assesses ways of optimising pig welfare at different stages of production, from breeding to slaughter.**

Print ISBN: 978-1-78676-443-0

eBook ISBN: 978-1-78676-446-1

Pages: 594

Pub. Date: January 2021

Price: £150/\$195/€180

Series No: 96



## Achieving sustainable production of pig meat – Volume 1 Safety, quality and sustainability

Editor: Professor Alan Mathew

**This volume addresses the main zoonoses affecting pigs and how they can be controlled, as well as the latest research on the key aspects of meat quality.**

Print ISBN: 978-1-78676-088-3

eBook ISBN: 978-1-78676-091-3

Pages: 290

Pub. Date: June 2018

Price: £130/\$170/€155

Series No: 23

## PIGS



### Achieving sustainable production of pig meat – Volume 2 Animal breeding and nutrition

Editor: Professor Julian Wiseman

**This volume discusses advances in breeding to improve both productivity and quality. It also reviews key developments in improving animal nutrition.**

Print ISBN: 978-1-78676-092-0

eBook ISBN: 978-1-78676-095-1

Pages: 340

Pub. Date: October 2017

Price: £160/\$210/€190

Series No: 24



### Achieving sustainable production of pig meat – Volume 3 Animal health and welfare

Editor: Professor Julian Wiseman

**This volume reviews the effective management of diseases affecting pigs as well as ways of defining and promoting animal welfare in pig production.**

Print ISBN: 978-1-78676-096-8

eBook ISBN: 978-1-78676-099-9

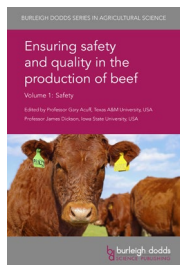
Pages: 326

Pub. Date: March 2018

Price: £140/\$180/€170

Series No: 25

## BEEF



### Ensuring safety and quality in the production of beef – Volume 1 Safety

Editors: Professor Gary Acuff and Professor James Dickson

**The first volume reviews the key research trends in ensuring safe beef production, both on the farm and during slaughter.**

Print ISBN: 978-1-78676-056-2

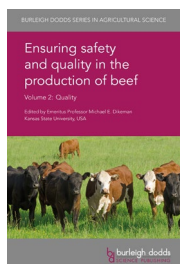
eBook ISBN: 978-1-78676-059-3

Pages: 252

Pub. Date: June 2017

Price: £130/\$170/€155

Series No: 11



### Ensuring safety and quality in the production of beef – Volume 2 Quality

Editor: Emeritus Professor Michael E. Dikeman

**The second volume in this book reviews developments related to quality, starting with the way breeding and growth affect meat quality.**

Print ISBN: 978-1-78676-060-9

eBook ISBN: 978-1-78676-063-0

Pages: 442

Pub. Date: April 2017

Price: £170/\$220/€205

Series No: 12

## SHEEP



### Advances in sheep production

NEW

Editors: Lesley Stubbings, Consultant, UK and Kate Phillips, Independent Livestock Consultant, UK

**This book reviews the key challenges facing sheep production, including evolving consumer expectations, concerns about sustainability, as well as One Health issues. The book also considers how grazing systems and nutritional approaches can be managed to optimise sheep health and welfare.**

Print ISBN: 978-1-80146-802-2

eBook ISBN: 978-1-80146-804-6

Pages: 500

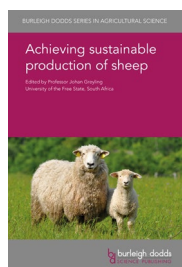
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Price: £160/\$210/€190

Series No: 162

### CHAPTER TITLES

**Part 1 Challenges facing sheep production;** 1.Understanding consumer and societal attitudes to sheep production; 2.Sustainability issues affecting sheep production; 3.One Health issues affecting sheep production; **Part 2 Sheep breeding and genetic selection;** 4.Advances in understanding the genetics of production and non-production traits in sheep; 5.Advances in breeding techniques for sheep; **Part 3 Reproductive efficiency and its management;** 6.Advances in genetic selection for improved fertility in sheep; 7.Improving ewe management for lifetime production; 8.Advances in improving lamb survival and health; **Part 4 Improving flock health and welfare management;** 9.Improving disease surveillance in sheep flocks; 10.Advances in understanding, preventing and managing parasitic infections of sheep; 11.The use of precision livestock technologies in managing sheep health and welfare; **Part 5 Managing grazing systems and nutrition;** 12.Advances in sustainable sheep pasture and grazing management; 13.Improving pasture/grassland for optimised sheep nutrition and health; 14.Developments in feed supplements for improved sheep nutrition and health; 15.Advances in understanding and optimising gastrointestinal function in sheep...(To view the full table of contents for this title, please visit our website.)



### Achieving sustainable production of sheep

Editor: Professor Johan Greyling, University of the Free State, South Africa

**This book reviews the latest research on issues such as meat quality, genetics and breeding. It also discusses animal nutrition, health and welfare as well as ways of improving the sustainability of sheep production.**

Print ISBN: 978-1-78676-084-5

eBook ISBN: 978-1-78676-087-6

Pages: 474

Pub. Date: September 2017

Price: £180/\$235/€215

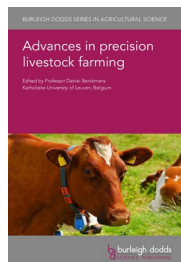
Series No: 22

### CHAPTER TITLES

**Part 1 Quality issues;** 1.Factors affecting sheep carcass characteristics; 2.Animal and on-farm factors affecting sheep and lamb meat quality; 3.Improving sheep wool quality; 4.Producing quality milk from sheep; **Part 2 Genetics and breeding;** 5.Mapping the sheep genome; 6.Advances in sheep breeding; 7.Improving reproductive efficiency of sheep; **Part 3 Animal nutrition and health;** 8.Sustainably meeting the nutrient requirements of grazing sheep; 9.Sheep nutrition: formulated diets; 10.Maintaining sheep flock health: an overview; 11.Bacterial and viral diseases affecting sheep; 12.Sustainable control of gastrointestinal nematode parasites affecting sheep; 13.Understanding and improving immune function in sheep; **Part 4 Animal welfare;** 14.Understanding sheep behaviour; 15.Validating indicators of sheep welfare; 16.Improving the welfare of ewes; 17.Improving the welfare of lambs; 18.Humane transport, lairage and slaughter of sheep; **Part 5 Sustainability;** 19.Assessing the environmental impact of sheep production; 20.Nutritional strategies to minimise emissions from sheep



## LIVESTOCK MANAGEMENT



### Advances in precision livestock farming

Editor: Professor Daniel Berckmans

**This book reviews recent advances in developing precision livestock technologies. It assesses developments in continuous, automated, real-time monitoring of production, health and welfare traits of livestock to improve the efficiency, welfare and environmental impact of livestock farming.**

Print ISBN: 978-1-78676-471-3

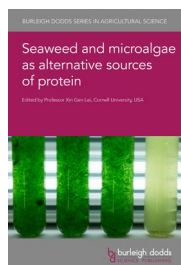
eBook ISBN: 978-1-78676-474-4

Pages: 442

Pub. Date: June 2022

Price: £150/\$195/€180

Series No: 105



### Seaweed and microalgae as alternative sources of protein

Editor: Professor Xin Gen Lei

**This book summarises current developments in utilising seaweed and microalgae as alternative sources of protein. Chapters focus on identifying the different types of macroalgae and microalgae, cultivation and processing, as well as the practical application in human and livestock diets.**

Print ISBN: 978-1-78676-620-5

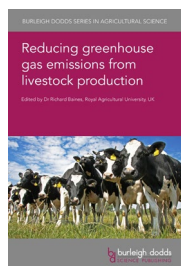
eBook ISBN: 978-1-80146-623-6

Pages: 344

Pub. Date: September 2021

Price: £140/\$180/€170

Series No: 107



### Reducing greenhouse gas emissions from livestock production

Editor: Dr Richard Baines

**This book reviews measurement and modelling of methane emissions and current mitigation strategies, including improving breeding and health, manure management as well as the role of grassland and feed supplements.**

Print ISBN: 978-1-78676-439-3

eBook ISBN: 978-1-78676-442-3

Pages: 358

Pub. Date: July 2021

Price: £150/\$195/€180

Series No: 95



### Developing animal feed products

Editor: Dr Navaratnam Partheeban

**This volume reviews key research and the challenges faced in developing new livestock feed products that promote growth whilst also enhancing both product quality and safety.**

Print ISBN: 978-1-78676-463-8

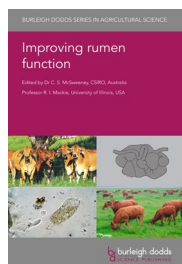
eBook ISBN: 978-1-78676-466-9

Pages: 256

Pub. Date: June 2021

Price: £150/\$195/€180

Series No: 101



## Improving rumen function

Editors: Dr C. S. McSweeney and Professor R. I. Mackie

**This book reviews what we know about rumen microbiota and the role of nutritional strategies in optimising their function for more sustainable livestock production.**

Print ISBN: 978-1-78676-332-7

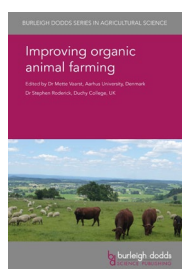
eBook ISBN: 978-1-78676-335-8

Pages: 862

Pub. Date: June 2020

Price: £190/\$245/€230

Series No: 83



## Improving organic animal farming

Editors: Dr Mette Vaarst and Dr Stephen Roderick

**This book addresses recent research on challenges facing organic animal farming such as more targeted breeding, improved grazing and feed rations, as well as better methods of health and disease management.**

Print ISBN: 978-1-78676-180-4

eBook ISBN: 978-1-78676-183-5

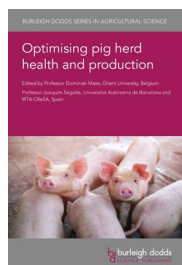
Pages: 406

Pub. Date: March 2019

Price: £170/\$220/€205

Series No: 46

# LIVESTOCK HEALTH & WELFARE



## Optimising pig herd health and production

Editors: Professor Dominiek Maes and Professor Joaquim Segalés

**This book summarises the wealth of research on optimising pig health to prevent the occurrence and spread of major diseases known to the pig industry, such as African Swine Fever.**

Print ISBN: 978-1-78676-883-4

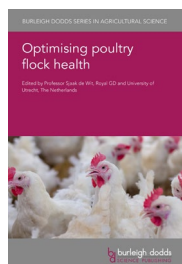
eBook ISBN: 978-1-78676-886-5

Pages: 596

Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 118



## Optimising poultry flock health

Editor: Professor Sjaak de Wit

**This book reviews the range of recent research on improving our understanding of the mechanisms of disease transmission and how this understanding can be used to improve poultry flock health.**

Print ISBN: 978-1-78676-887-2

eBook ISBN: 978-1-78676-890-2

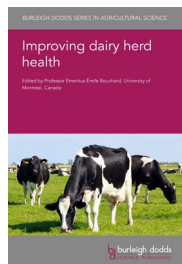
Pages: 414

Pub. Date: September 2022

Price: £150/\$195/€180

Series No: 119

## LIVESTOCK HEALTH & WELFARE



### Improving dairy herd health

Editor: Professor Emeritus Émile Bouchard

**This volume reviews advances in on-farm herd health management to prevent and limit disease amongst dairy cattle. It also surveys advances in disease epidemiology and monitoring.**

Print ISBN: 978-1-78676-467-6

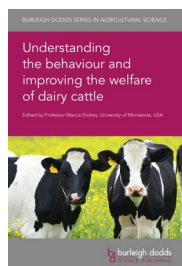
eBook ISBN: 978-1-78676-470-6

Pages: 490

Pub. Date: July 2021

Price: £150/\$195/€180

Series No: 102



### Understanding the behaviour and improving the welfare of dairy cattle

Editor: Professor Marcia Endres

**This book reviews the wealth of research on understanding dairy cattle behaviour, monitoring their welfare and improving current welfare practices.**

Print ISBN: 978-1-78676-459-1

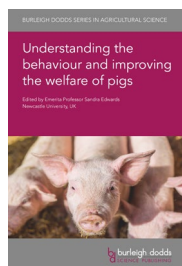
eBook ISBN: 978-1-78676-462-1

Pages: 274

Pub. Date: February 2021

Price: £150/\$195/€180

Series No: 98



### Understanding the behaviour and improving the welfare of pigs

Editor: Emerita Professor Sandra Edwards

**This book reviews the genetic and developmental factors that affect pig behaviour and assesses ways of optimising pig welfare at different stages of production, from breeding to slaughter.**

Print ISBN: 978-1-78676-443-0

eBook ISBN: 978-1-78676-446-1

Pages: 594

Pub. Date: January 2021

Price: £150/\$195/€180

Series No: 96



### Understanding the behaviour and improving the welfare of chickens

Editor: Professor Christine Nicol

**This book reviews recent research on understanding chicken behaviour, as well as the technologies currently available to monitor this behaviour.**

Print ISBN: 978-1-78676-422-5

eBook ISBN: 978-1-78676-425-6

Pages: 688

Pub. Date: September 2020

Price: £170/\$220/€205

Series No: 91

## ALTERNATIVE NUTRIENT SOURCES



### Insects as alternative sources of protein for food and feed

NEW

Editor: Adriana Casillas, Tebrio, Spain

**This book reviews the wealth of current research on the use of insect species as sources of protein in both human and animal diets. It considers recent advances in the production and application of black soldier flies, yellow mealworms and other insects primarily as feed for swine, poultry and fish.**

Print ISBN: 978-1-80146-584-7

eBook ISBN: 978-1-80146-586-1

Pages: 400

Pub. Date: August 2024

Price: £150/\$195/€180

Series No: 154

#### CHAPTER TITLES

**Part 1 Production and applications of black soldier flies;** 1.Advances in mass breeding/rearing techniques for black soldier flies as a protein source; 2.Advances in nutrient/substrate sources/composition for rearing black soldier flies as a protein source; 3.Diseases affecting production of black soldier flies as a protein source; 4.Use of protein from black soldier flies in poultry feed; 5.Use of protein from black soldier flies in pig feed; 6.Use of protein from black soldier flies in fish feed; **Part 2 Production and application of yellow mealworms and other insects;** 7.Advances in mass breeding/rearing techniques for yellow mealworms as a protein source; 8.Advances in nutrient/substrate sources/composition for rearing yellow mealworms as a protein source; 9.Diseases affecting production of yellow mealworms as a protein source; 10.Use of protein from yellow mealworms in poultry feed; 11.Use of protein from yellow mealworms in fish feed; 12.Advances in production of house flies as food and animal feed; 13.Advances in production of crickets as food and animal feed; **Part 3 General issues in use of insect protein;** 14.Advances in techniques for extracting protein from insects; 15.Ensuring the safety of protein from insects; 16.Understanding and changing attitudes towards eating protein derived from insects



### Advances in cultured meat technology

NEW

Editors: Professor Mark Post, Maastricht University, The Netherlands, Professor Che Connon, Newcastle University, UK and Dr Chris Bryant, University of Bath and Bryant Research, UK

**This book reviews current advances in cellular agriculture, focussing on the emerging research in cultured meat technology.**

Print ISBN: 978-1-80146-376-8

eBook ISBN: 978-1-80146-378-2

Pages: 432

Pub. Date: October 2023

Price: £140/\$180/€170

Series No: 145

#### CHAPTER TITLES

**Part 1 General;** 1.Cultured meat technology: an overview; 2.Talking points on the cultural politics of cultured meat; 3.Creating a regulatory framework for cultured meat products: Singapore; 4.Creating an infrastructure for cultured meat; **Part 2 Technologies;** 5.Cell line sourcing and characterization of cultured meat product development; 6.Developments in cell culture media for cultured meat applications; 7.Bioreactors for cell multiplication in cultured meat product development; 8.Tissue engineering using scaffolds in cultured meat product development; 9.Scaling cell production sustainably in cultured meat product development; **Part 3 Quality and sustainability issues;** 10.Developing cultured meat as a food product; 11.Assessing the environmental impact of commercial-scale cultivated meat production; 12.Consumer attitudes to cultured meat products: improving understanding and acceptance; 13.Techno-economic analysis for cultivated meat production

## ALTERNATIVE NUTRIENT SOURCES



### Seaweed and microalgae as alternative sources of protein

Editor: Professor Xin Gen Lei, Cornell University, USA

This book summarises current developments in utilising seaweed and microalgae as alternative sources of protein. Chapters focus on identifying the different types of macroalgae and microalgae, cultivation and processing, as well as the practical application in human and livestock diets.

Print ISBN: 978-1-78676-620-5

Pub. Date: September 2021

eBook ISBN: 978-1-80146-623-6

Price: £140/\$180/€170

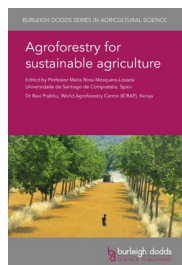
Pages: 344

Series No: 107

### CHAPTER TITLES

**Part 1 Types of macroalgae and microalgae;** 1.Seaweed as a potential protein supplement in animal feeds; 2.Solar energy conversion, oxygen evolution and carbon assimilation in cyanobacteria and eukaryotic microalgae; 3.Extraction of proteins and other functional components from red seaweed (*Rhodophyta*); **Part 2 Cultivation and processing;** 4.Developments in commercial scale farming of microalgae and seaweeds; 5.Developments in algal processing; 6.Bioprocessing of microalgal proteins and their applications in the cosmetic, nutraceutical and food industries; 7.Environmental impacts of seaweed cultivation: kelp farming and preservation; **Part 3 Applications;** 8.Nutritional and anti-methanogenic potentials of macroalgae for ruminants; 9.Developing seaweed/macroalgae as feed for pigs; 10.Microalgae: a unique source of poultry feed protein; 11.Developing macroalgae and microalgae as feed for fish

## AGROFORESTRY



### Agroforestry for sustainable agriculture

Editors: Professor María Rosa Mosquera Losada, University of Santiago de Compostela, Spain and Dr Ravi Prabhu, World Agroforestry Centre (ICRAF), Kenya

This volume reviews the latest research on the role and implementation of main types of agroforestry, the ecosystem services that agroforestry can deliver and techniques for optimising agroforestry practice.

Print ISBN: 978-1-78676-220-7

Pub. Date: May 2019

eBook ISBN: 978-1-78676-223-8

Price: £180/\$235/€215

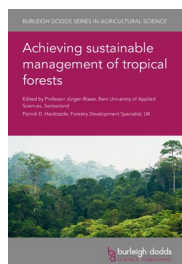
Pages: 542

Series No: 55

### CHAPTER TITLES

**Part 1 Agroforestry practices;** 1.Agroforestry practices: riparian forest buffers and filter strips; 2.Agroforestry practices: windbreaks; 3.Managing hedgerows to optimise ecosystem services in agroforestry systems; 4.Temperate alley cropping systems; 5.Agroforestry practices: silvopastoralism; 6.Agroforestry practices: forest farming; 7.Modelling agroforestry systems; 8.Tree planting and management in agroforestry; **Part 2 Agroforestry ecosystem services;** 9.A holistic approach to sustainable agriculture: trees, science and global society; 10.The role of biodiversity in agroforestry and other types of smallholder farming; 11. Agroforestry: a system for improving soil health; **Part 3 Agroforestry products;** 12.Agroforestry for hardwood timber production; 13.Agroforestry for the cultivation of nuts; 14.Agroforestry for fruit trees in Europe and Mediterranean North Africa; **Part 4 Tropical agroforestry;** 15.Moving up the scale: challenges in tropical agroforestry; 16.Tropical tree domestication in agroforestry; 17.Tropical agroforestry and ecosystem services: trade-offs analysis for better design strategies

## FORESTRY



### Achieving sustainable management of tropical forests

Editors: Professor Jürgen Blaser and Mr Patrick D. Hardcastle

**This book summarises and reviews the rich body of research on tropical forests and how this research can be utilised to make sustainable management of tropical forests a standard implementable strategy for the future.**

Print ISBN: 978-1-78676-248-1

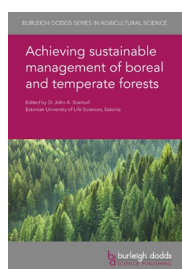
eBook ISBN: 978-1-78676-251-1

Pages: 746

Pub. Date: October 2020

Price: £190/\$245/€230

Series No: 80



### Achieving sustainable management of boreal and temperate forests

Editor: Dr John A. Stanturf

**This book reviews current research on balancing commercial use with the range of ecosystem services delivered by boreal and temperate forests.**

Print ISBN: 978-1-78676-292-4

eBook ISBN: 978-1-78676-295-5

Pages: 872

Pub. Date: November 2019

Price: £190/\$245/€230

Series No: 71

## GRASSLANDS



### Improving grassland and pasture management in temperate agriculture

Editors: Professor Athole Marshall and Dr Rosemary Collins, IBERS, Aberystwyth University, UK

**This volume reviews the range of research on more sustainable use of grasslands to optimise livestock nutrition whilst protecting biodiversity.**

Print ISBN: 978-1-78676-200-9

eBook ISBN: 978-1-78676-203-0

Pages: 486

Pub. Date: July 2018

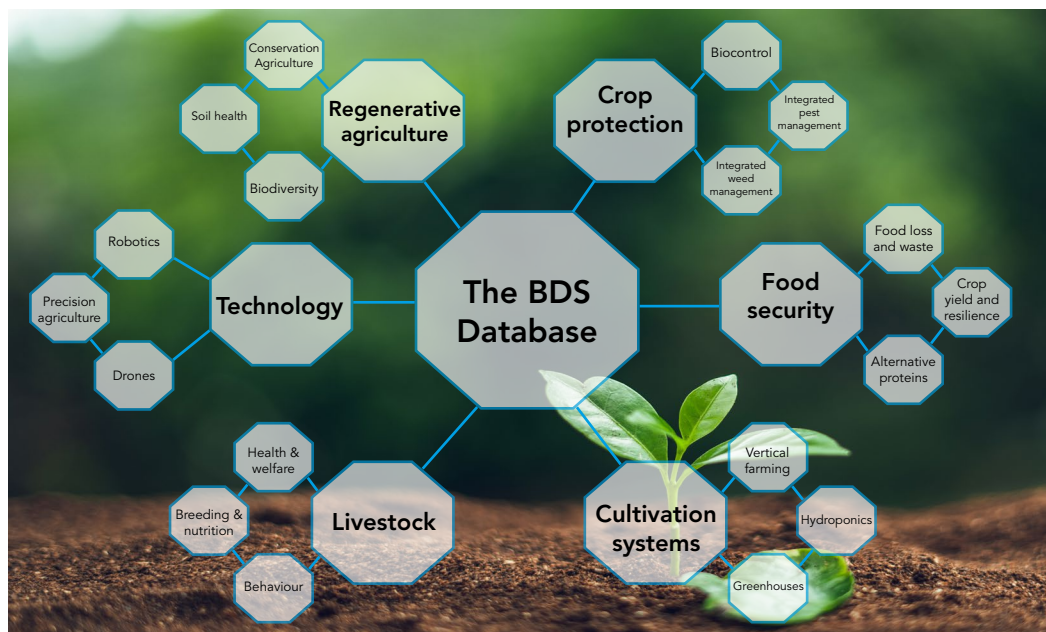
Price: £190/\$245/€230

Series No: 51

### CHAPTER TITLES

**Part 1 Grassland functions and dynamics;** 1.The role of grasslands in biogeochemical cycles and biodiversity conservation; 2.The role of pasture in the diet of ruminant livestock; 3.Plant-animal interactions in grazing systems; 4.Grazing management for sustainable grazing systems; **Part 2 Management of grasslands;** 5.Planning and sowing grasslands; 6.Managing grassland for forage production: an overview; 7.Managing grassland systems to optimise livestock farming; 8.Persistence and yield stability of temperate grassland legumes for sustainable animal production; 9.Balancing pasture productivity with environmental and animal health requirements; 10.Managing soil health for grassland; 11.Management of water resources for grasslands; 12.Biological weed control in temperate grasslands; 13.Restoring degraded grasslands; 14.Advances in remote sensing for monitoring grassland and forage production; **Part 3 Sustainability and wider uses of grasslands;** 15.Research challenges in adapting grasslands to climate change; 16.Protecting biodiversity in grasslands; 17.Advances in feeding grass silage; 18.Use of grassland for bioenergy and biorefining; 19.Organic grassland





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