

BURLEIGH DODDS SERIES IN AGRICULTURAL SCIENCE

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2022 CATALOGUE



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About Burleigh Dodds

Burleigh Dodds Science Publishing is an award winning independent publisher founded by Rob Burleigh and Francis Dodds in 2015. Our mission is to bring you the key research and latest trends to empower you to make a positive impact on sustainable agriculture, climate change and the UN Sustainable Development Goals.

We now boast over 100 published titles and 1700 chapters with the anticipation of adding a further 300 chapters to our database and over 20 books in 2022.

Our 2022 catalogue showcases how we are continuing our mission with new and exciting content on topics such as energy-smart farming, sensor technology, fostering soil carbon sequestration, as well as livestock health, welfare and optimising the quality of meat products.

We hope you like the new Catalogue. All of us at Burleigh Dodds are looking forward to working with you in 2022 to meet your information needs.

The Burleigh Dodds Team



Rob Burleigh
Managing Director



Francis Dodds
Editorial Director

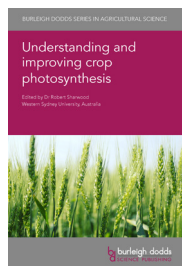


Amanda Renwick
Content Delivery
Specialist



Katherine Lister
Marketing Executive

PHYSIOLOGY & BREEDING



Understanding and improving crop photosynthesis

NEW

Editor: Dr Robert Sharwood, Western Sydney University, Australia

This collection 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: 400

Pub. Date: December 2022

Price: £150/\$195/€180

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.Understanding the relationship between photosynthesis and the circadian clock in plants; 4.Modifying the photosystem antenna complex 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 leaf/canopy architecture to optimise photosynthesis in crops; **Part 3 Improving photosynthesis: optimising chloroplast function/light conversion;** 8.Modifying photorespiration to optimise photosynthesis in crops; 9.Maximising the efficiency of RuBP (ribulose biphosphate) regeneration to optimise photosynthesis in crops; 10.Understanding and modifying protein function in plant chloroplasts to optimise photosynthesis; 11.Improving electron transport capacity to optimise photosynthesis in crops



Advances in seed science and technology for more sustainable crop production

NEW

Editors: Dr Julia Buitink, INRAE, France and Professor Olivier Leprince, L'Institut Agrocampus Ouest, France

This collection reviews the wealth of recent research on advances in seed science and technology, including 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

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

Pages: 360

Pub. Date: June 2022

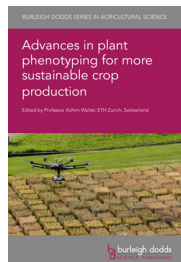
Price: £150/\$195/€180

Series No: 120

CHAPTER TITLES

Part 1 Understanding seeds: from biology to the field; 1.Advances in understanding the genetic and molecular mechanisms governing seed germination; 2.Understanding the effects of maternal environment in controlling seed dormancy; 3.Advances in population-based threshold models to predict the effects of seedbed environment on germination and seedling emergence of crops; 4.Understanding biotic stresses affecting seed germination and seedling emergence; 5.Advances in understanding the genetic and environmental factors determining seed longevity; **Part 2 Seed quality control;** 6.Advances in seed phenotyping and applications to seed testing/monitoring and breeding; 7.Advances in testing seed health; 8.Advances in preservation of seed vigour during seed storage; **Part 3 Seed treatments;** 9.Advances in seed coating techniques; 10.Advances in enhancing seed defence mechanisms against pathogens; 11.Biostimulant seed treatments; 12.Advances in seed conditioning/priming techniques

PHYSIOLOGY & BREEDING



Advances in plant phenotyping for more sustainable crop production

NEW

Editor: Professor Achim Walter, ETH Zurich, Switzerland

This collection reviews the wealth of research on advances in phenotyping and the influential role it plays in identifying the relative importance of genetic, environmental and agronomic factors in determining complex plant traits.

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

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

Pages: 420

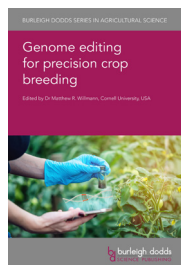
Pub. Date: May 2022

Price: £150/\$195/€180

Series No: 117

CHAPTER TITLES

Part 1 The development of phenotyping as a research field; 1.Origins and drivers of crop phenotyping; 2.Classical trait grading in breeding versus sensor-based phenotyping; **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 computerised tomography in crop phenotyping; **Part 3 Carrier/delivery systems;** 6.Advances in ground-based proximal distance carrier systems for crop 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.Advances in computer vision, feature extraction and machine learning in crop phenotyping; 9.From experimental design to G2P (genotype to phenotype); 10.Crop models of the future: How can they gain from the current developments in phenotyping?; **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.Using phenotyping techniques to understand and improve crop responses to plant diseases or other biotic stresses



Genome editing for precision crop breeding

NEW

Editor: Dr Matthew R. Willman, Cornell University, USA

This collection takes stock of the wealth of research on current genome editing techniques and their potential in crop breeding in improving traits such as yield, disease resistance, drought tolerance and nutrient use efficiency.

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

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

Pages: 494

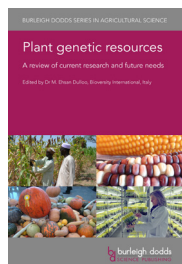
Pub. Date: April 2021

Price: £150/\$195/€180

Series No: 97

CHAPTER TITLES

Part 1 Genome editing techniques; 1.Using TALENs for genome editing in plants; 2.Double strand break (DSB) repair pathways in plants and their application in genome engineering; 3.Advances in the generation of insertion-based genome edits in plants; 4.Viruses as vectors for the delivery of gene-editing reagents; 5.Progress in precise and predictable genome editing in plants with base editing; 6.Advances in guide RNA design for editing plant genomes using CRISPR-Cas systems; 7.Advances in assembling gRNA/Cas9 constructs in genome editing of plants; 8.Strategies for CRISPR/Cas9-mediated genome editing: from delivery to production of modified plants; 9.Advances in screening plants for edits and off-targets; 10.Targeted modification of promoters; 11.The regulation of genome-edited crops; **Part 2 Applications;** 12.Genome editing of barley; 13.Genome editing of maize; 14.Genome editing of sorghum; 15.CRISPR/Cas9-mediated genome editing in *Brassica*; 16.Genome editing of tomatoes and other Solanaceae; 17.Genome editing of woody perennial trees



Plant genetic resources

NEW

A review of current research and future needs

Editor: Dr M. Ehsan Dulloo, Bioversity International, Italy

This collection starts by reviewing key issues such as valuing, identifying and monitoring plant genetic diversity. The book assesses advances in in-situ strategies for protecting crop wild relatives.

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

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

Pages: 352

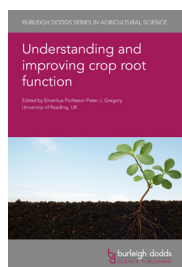
Pub. Date: March 2021

Price: £160/\$210/€190

Series No: 100

CHAPTER TITLES

Part 1 Importance and value of conservation and use of plant genetic diversity; 1.Plant genetic resources for food and agriculture for sustainable development; 2.Valuing plant genetic resources in genebanks: Past, present and future; 3.Monitoring plant genetic resources for food and agriculture; 4.Improving the global exchange of germplasm for crop breeding; **Part 2 Protecting plant genetic diversity: in-situ and on-farm strategies;** 5.Key steps in conservation and use of plant genetic resources: an overview; 6.Key issues facing genebanks in preserving crop genetic diversity ex situ: overview of the range of challenges; 7.Techniques and key issues in collecting crop wild relatives; 8.New technologies to improve the ex situ conservation of plant genetic resources; 9.The role of the Svalbard Global Seed Vault in preserving crop genetic diversity; **Part 3 Enhancing conservation and use of plant genetic diversity;** 10.Community-based conservation of crop genetic resources; 11.Participatory plant breeding programs to optimize use of crop genetic resources; 12.Seed systems and diversity; 13.DNA-based screening of Brassica germplasm for sustainable and enhanced crop production



Understanding and improving crop root function

NEW

Editor: Emeritus Professor Peter R. Gregory, University of Reading, UK

This collection 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

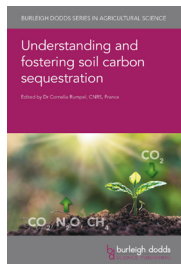
Price: £180/\$235/€215

Series No: 90

CHAPTER TITLES

Part 1 Analysing root system architecture, growth and interactions with the rhizosphere; 1.Advances in root architectural modeling; 2.The development of crop root architecture and optimization of nutrition acquisition: the case of rice; 3.Advances in understanding plant root growth regulators; 4.Advances in understanding plant root anatomy and nutrient acquisition; 5.Advances in understanding plant root hairs in relation to nutrient acquisition and crop root function; 6.Understanding plant-root interactions with rhizobacteria to improve biological nitrogen fixation in crops; 7.Advances in understanding arbuscular mycorrhizal fungal effects on soil nutrient cycling; **Part 2 Root response to biotic threats;** 8.Advances in understanding plant root response to weedy root parasites; 9.Advances in understanding plant root responses to root-feeding insects; 10.Advances in understanding plant root response to nematode attack; **Part 3 Root uptake of nutrients and water;** 11.Advances in the understanding of nitrogen (N) uptake by plant roots; 12.Advances in understanding plant root uptake of phosphorus; 13.Advances in understanding plant root water uptake; **Part 4 Improving root function;** 14.Understanding and exploiting the genetics of plant root traits; 15.The use of plant growth-promoting rhizobacteria (PGPR) to improve root function and crop nutrient use efficiency... (To view the full table of contents for this title, please visit our website.)

SOIL & WATER MANAGEMENT



Understanding and fostering soil carbon sequestration

NEW

Editor: Dr Cornelia Rumpel, CNRS, France

This collection reviews the wealth of 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
Pub. Date: September 2022

eBook ISBN: 978-1-78676-972-5
Price: £180/\$235/€215

Pages: 600
Series No: 121

CHAPTER TITLES

1.Introduction; **Part 1 Understanding carbon sequestration in soils**; 2.Mechanisms of soil organic carbon sequestration; 3.Factors affecting soil organic carbon dynamics; 4.The role of biodiversity and soil biological activity on organic carbon sequestration; 5.Effects of abiotic factors affecting processes of soil organic carbon sequestration at different scales; 6.Co-benefits and trade-offs in soil organic carbon sequestration; 7.The role of inorganic soil carbon in soil carbon sequestration; 8.Soil organic carbon sequestration and climate change; **Part 2 Measuring carbon sequestration in soils**; 9.Introduction: key issues in measuring carbon sequestration in soils; 10.Advances in measuring soil organic carbon stocks turnover and residence time at profile scale; 11.Advances in soil mapping to assess levels of carbon sequestration at landscape scales; 12.Advances in modelling soil organic carbon dynamics;13.Digital tools for assessing soil organic carbon at farm and regional scale; **Part 3 Fostering carbon sequestration in soils**; 14.Setting the scene; 15.Agriculture practices to improve soil carbon sequestration in upland soil; 16.Agriculture practices to improve soil carbon sequestration in submerged soil... *(To view the full table of contents for this title, please visit our website.)*



Improving soil health

NEW

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

This collection 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
Pub. Date: August 2022

eBook ISBN: 978-1-78676-673-1
Price: £150/\$195/€180

Pages: 400
Series No: 109

CHAPTER TITLES

Part 1 Dimensions of soil health; 1.Soil health: definitions and key concepts; 2.Understanding biological processes in soil; 3.Understanding mycorrhizal activity as a component of soil health; **Part 2 Soil management**; 4.Assessing the effects of zero/no till cultivation practices on soil health; 5.Agricultural traffic management systems and soil health; 6.Assessing the effects of cover crops on soil health; 7.Assessing the effects of crop residue retention on soil health; **Part 3 Soil amendments**; 8.Assessing the effects of compost on soil health; 9.Assessing the effects of using animal manure on soil health; 10.Assessing the effect of biosolids on soil health; 11.Biofertilizers: assessing the effects of arbuscular mycorrhizal fungi (AMF) on soil health; 12.Biofertilizers: assessing the effects of plant growth-promoting rhizobacteria (PGCR) on soil health; 13.The role of liming in improving soil health



Advances in measuring soil health

NEW

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
Pub. Date: June 2021

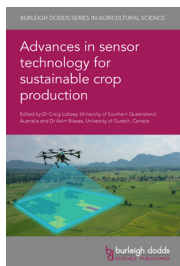
eBook ISBN: 978-1-78676-429-4
Price: £180/\$235/€215

Pages: 382
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

TECHNOLOGY & DATA



Advances in sensor technology for sustainable crop production

NEW

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

This collection 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
Pub. Date: September 2022

eBook ISBN: 978-1-78676-980-0
Price: £150/\$195/€180

Pages: 400
Series No: 122

CHAPTER TITLES

Part 1 Remote and aerial sensing in sustainable crop production; 1.Advances in remote/aerial sensing of crop water status; 2.Advances in remote/aerial sensing technologies to assess crop health; 3.Advances in remote/aerial sensing techniques for monitoring soil health; **Part 2 Proximal sensing in sustainable crop production;** 4.Advances in using proximal spectroscopic sensors to assess soil health; 5.Advances in using proximal ground penetrating radar (GPR) sensors to assess soil health; 6.Using proximal electromagnetic/electrical resistivity (ER)/electrical impedance spectroscopy sensors to assess soil health and water status; 7.Using GPR to map and improve soil drainage systems for improved crop yields; 8.Using proximal electrochemical (ISE) soil sensors to assess soil health; 9.Advances in machine vision technologies for the measurement of soil texture, structure and topography; **Part 3 Data analytics;** 10.Advances in processing/analysing images from proximal crop sensors; 11.Advances in proximal sensor fusion/multi-sensor platforms for improved crop management; 12.Advances in integrating remote and proximal sensor data for precision agriculture applications; 13.Advances in techniques in integrating and analysing data from sensor networks

INSECT PESTS, DISEASES & WEEDS



Advances in understanding insect pests affecting wheat and other cereals

NEW

Editors: Professor Sanford Eigenbrode and Dr Arash Rashed, University of Idaho, USA

This collection reviews the wealth of research on understanding the major insect pests of cereals, including how best to control and monitor them.

Print ISBN: 978-1-80146-113-9

Pub. Date: January 2023

eBook ISBN: 978-1-80146-116-0

Price: £150/\$195/€180

Pages: 440

Series No: 129

CHAPTER TITLES

Part 1 Aphid pests; 1.Russian wheat aphid (*Diuraphis noxia*): overview; 2.Greenbug (*Schizaphis graminum*): overview; 3.Greenbug (*Schizaphis graminum*): plant-insect interactions; 4.Fescue aphid (*Metopolophium festucae*); 5.English grain aphid (*Sitobion avenae*); **Part 2 Gall midges;** 6.Hessian fly (*Mayetiola destructor*): plant-pathogen interactions; 7.Orange Blossom wheat midge (*Sitodiplosis mosellana*); 8.Wheat curl mite (*Aceria tulipae*); **Part 3 Other pests;** 9.Wheat stem sawfly (*Cephus cinctus*); 10.Cereal leaf beetle (*Oulema melanopus*); 11.Wireworms (*Elateridae*); 12.Grasshoppers; **Part 4 Emerging issues;** 13.Newly invasive insect pests of wheat; 14.Biotechnology for wheat crop protection: potential and challenges; 15.On-line decision support systems, remote sensing and AI applications for wheat pests



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 collection reviews the wealth of research on improving monitoring techniques for the detection of both native and alien insect pests.

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

Pub. Date: December 2022

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

Price: £150/\$195/€180

Pages: 400

Series No: 128

CHAPTER TITLES

Part 1 Detection; 1.Advances in techniques for trapping crop insect pests; 2.Advances and challenges in monitoring crop insect pests: the US experience; 3.Developments in sampling/survey design for monitoring crop insect pests; 4.Developments in crop insect pest detection techniques; 5.Monitoring airborne movement of crop insect pests; **Part 2 Identification, modelling and risk assessment;** 6.DNA barcoding/marker microarray techniques for more accurate identification of crop insect pests; 7.Advances in image-based identification and analysis of crop insect pests; 8.Advances in crop insect pest population growth models; 9.Advances in pest risk assessment techniques for crop insect pests; 10.Key challenges in national surveillance programmes for crop insect pests; **Part 3 Invasive species;** 11.Assessing the potential economic impact of invasive insect and plant species; 12.Developing effective phytosanitary measures to prevent invasive insect pests; 13.Developing successful IPM programmes to control/eradicate invasive species

Available as books and chapters, in print and digital formats



Advances in integrated weed management

NEW

Editor: Professor Per Kudsk, Aarhus University, Denmark

This collection 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: 400

Pub. Date: April 2022

Price: £150/\$195/€180

Series No: 113

CHAPTER TITLES

Part 1 Weed ecology; 1.Advances in understanding weed species functional diversity and ecological impacts; 2.Advances in understanding weed community growth and dynamics; 3.Advances in understanding weed seed bank ecology and control; 4.Advances in understanding allelopathic interactions between weeds and crops; 5.Advances in understanding the ecology of invasive weed species; **Part 2 Intelligent weed control technologies (IWCT);** 6.Advances in modelling weed dynamics; 7.Developing decision support systems (DSS) for weed management; 8.Advances in sensor technology for weed scouting and mapping; 9.Advances in precision application technologies for weed management; 10.Advances in mechanical weed control technologies; **Part 3 Case studies;** 11.Understanding farmer's attitudes to weed management and barriers to adopting integrated weed management (IWM); 12.Optimising integrated weed management in narrow-row crop cultivation; 13.Optimising integrated weed management in pasture/rangelands; 14.Optimising integrated weed management in tree crop cultivation; 15.The economics of integrated weed management (IWM)



Improving integrated pest management in horticulture

NEW

Editor: Professor Rosemary Collier, Warwick University, UK

This collection reviews current advances in integrated pest management (IPM) 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

CHAPTER TITLES

Part 1 Using biological agents in integrated pest management; 1.Advances in biopesticides/bioprotectants for insect control in horticulture; 2.Advances in biopesticides/bioprotectants for plant disease control in horticulture; 3.Advances in biostimulants as an IPM tool in horticulture; 4.Improving application systems for bioprotectants in IPM programmes in horticulture; **Part 2 Using decision support systems in integrated pest management;** 5.Advances in insect/disease pest monitoring and forecasting in horticulture; 6.Advances in proximal sensors to detect crop health status in horticultural crops; 7.Advances in decision support systems (DSS) for IPM in horticultural crops; **Part 3 Improving integrated pest management techniques and implementation;** 8.The use of agronomic practices in IPM programmes in horticulture; 9.Advances in conservation biological control in IPM for horticultural crops; 10.Assessing the economics of IPM for horticultural crops; 11.Encouraging take up of IPM in horticultural crop production; **Part 4 Case studies;** 12.Practical application of IPM in greenhouses/protected cultivation; 13.Practical application of IPM in vegetable cultivation (e.g. cucurbits or tomatoes; examples of successful commercial applications of IPM programmes); 14.Practical application of IPM in vegetable cultivation (e.g. control of cabbage root fly in cauliflower)

INSECT PESTS, DISEASES & WEEDS



Microbial bioprotectants for plant disease management

NEW

Editors: Dr Jürgen Köhl, Wageningen University & Research, The Netherlands and Dr Willem J. Ravensberg, Koppert Biological Systems, The Netherlands

This collection summarises and reviews the wealth of recent research on the development of more environmentally friendly biological methods to control plant diseases.

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

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

Pages: 734

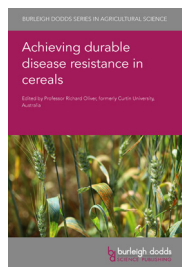
Pub. Date: November 2021

Price: £150/\$195/€180

Series No: 108

CHAPTER TITLES

Part 1 Product development of microbials; 1.Advances in understanding modes of action of microbial bioprotectants; 2.Advances in screening approaches for the development of microbial bioprotectants to control plant diseases; 3.Visualising plant colonisation by beneficial bacteria: a key step to improve the understanding of plant-microbe interactions; 4.Durability of efficacy of microbial bioprotectants against plant diseases; 5.Advances in production and formulation of commercial microbial bioprotectant products; 6.Key issues in the regulation of microbial bioprotectants in the European Union: challenges and solutions to achieve more sustainable crop protection; 7.Microbial bioprotectants and the marketplace; **Part 2 Biological control agents;** 8.The use of *Bacillus* spp. as bacterial biocontrol agents to control plant diseases; 9.The use of *Pseudomonas* spp. as bacterial biocontrol agents to control plant diseases; 10.Are there bacterial bioprotectants besides *Bacillus* and *Pseudomonas* species?; 11.The use of *Trichoderma* spp. to control plant diseases; 12.*Clonostachys rosea* to control plant diseases; 13.Bacteriophages to control plant diseases... (To view the full table of contents for this title, please visit our website.)



Achieving durable disease resistance in cereals

NEW

Editor: Professor Richard Oliver, formerly Curtin University, Australia

This collection reviews advances in the key areas required to achieve durable disease resistance in cereal crops, from advances in understanding pathogen biology/epidemiology and plant pathogen interactions to identifying sources of resistance and advanced techniques for breeding new varieties.

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; 12.Advances in breeding techniques for durable resistance to spot blotch in cereals... (To view the full table of contents for this title, please visit our website.)

SUSTAINABILITY & ENVIRONMENT



Promoting pollination and pollinators in farming

NEW

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

This collection 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.

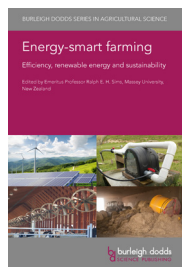
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Pub. Date: November 2022

eBook ISBN: 978-1-80146-101-6
Price: £160/\$210/€190

Pages: 500
Series No: 126

CHAPTER TITLES

Part 1 Understanding pollinators and pollination; 1.What is pollination and what are pollinators in agriculture?; 2.Pollination, crop production and agricultural productivity; 3.Advances in understanding crop plant-pollinator interactions: olfactory attractants; 4.The role of wind-pollinated plants in plant-pollinator networks; **Part 2 Threats to pollinators;** 5.Assessing climate change impacts on pollinators; 6.Assessing the impact of disease on pollinators; 7.Assessing the impact of pesticides on pollinators; 8.Improving pesticide risk assessment to protect pollinators; 9.Assessing the impact of introduced species of pollinators on agricultural production; **Part 3 Promoting pollinators and pollination;** 10.The role of habitat conservation/restoration in protecting pollinators in agricultural landscapes; 11.Alterng crop management practices to promote pollinators; 12.Landscape approaches to promoting pollinators in agriculture; 13.Designing integrated pest management (IPM) programmes to protect pollinators and promote pollination for agricultural productivity; 14.Entomovectoring/apivectoring: using pollinators to spread biocontrol agents; 15.The use of managed bee populations to provide pollination services; 16.Improving teaching of pollination ecology in the classroom: theory and practice



Energy-smart farming

NEW

Efficiency, renewable energy and sustainability

Editor: Emeritus Professor Ralph Sims, Massey University, New Zealand

This collection reviews research on methods implemented to reduce the costs and environmental impact of on-farm energy use, such as through the adoption of renewable forms of energy production.

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

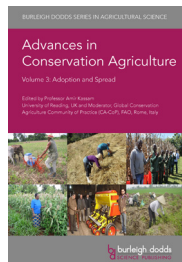
eBook ISBN: 978-1-78676-838-4
Price: £150/\$195/€180

Pages: 400
Series No: 115

CHAPTER TITLES

Part 1 Efficient use of electricity, heat and fuel; 1.Measuring/auditing on-farm energy use; 2.Advances in energy-efficient lighting systems/ventilation on farms; 3.Improving farm machinery operation/maintenance; 4.Efficient water management and irrigation on farms; **Part 2 On-farm renewable energy heat and power generation;** 5.Renewable and energy-smart innovation; 6.Assessing and modelling the costs of on-farm distributed renewable energy systems; 7.Developments in agrivoltaics; 8.On-farm biomass heat technologies; **Part 3 Energy-smart farming: case studies;** 9.Energy-smart dairy farming; 10.Energy-smart pig/swine farming; 11.Energy-smart poultry farming

SUSTAINABILITY & ENVIRONMENT



Advances in Conservation Agriculture - Volume 3 Adoption and Spread

NEW

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

eBook ISBN: 978-1-78676-478-2

Pages: 672

Pub. Date: February 2022

Price: £150/\$195/€180

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

POSTHARVEST



Developing smart agri-food supply chains Using technology to improve safety and quality

NEW

Editor: Professor Louise Manning, Royal Agricultural University, UK

This collection 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

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

Pages: 460

Pub. Date: December 2021

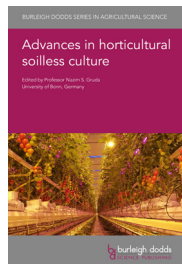
Price: £150/\$195/€180

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

CROP MANAGEMENT



Advances in horticultural soilless culture

NEW

Editor: Professor Nazim S. Gruda, University of Bonn, Germany

This collection 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

CHAPTER TITLES

1. Soilless culture systems and growing media in horticulture: an overview; **Part 1 Materials**; 2. Advances in understanding plant root behaviour and rootzone management in soilless culture systems; 3. Developments in inorganic materials, synthetic organic materials and peat in soilless culture systems; 4. Developments in alternative organic materials for growing media in soilless culture systems; 5. Understanding and optimizing the physical properties of growing media for soilless cultivation; 6. Understanding and optimising the chemical properties of growing media for soilless cultivation; 7. Understanding and optimising the biological properties of growing media for soilless cultivation; **Part 2 Technologies**; 8. Advances in liquid- and solid-medium soilless culture systems; 9. Advances in irrigation/fertigation techniques in greenhouse soilless culture systems (SCS); 10. Advances in nutrient management modelling and nutrient concentration prediction for soilless culture systems; 11. Advanced hydroponics design for plant cultivation in cities; 12. Optimizing product quality in soilless culture systems (SCS); **Part 3 Case studies**; 13. Advances in soilless cultivation of tomatoes and other fruit vegetables; 14. Advances in soilless culture strawberry production; 15. Advances in soilless culture of ornamentals

BEVERAGE & SUGAR CROPS



Climate-smart production of coffee

NEW

Improving social and environmental sustainability

Editor: Professor Reinhold Muschler, CATIE, Costa Rica

The coffee sector needs more sustainable methods of cultivation. This volume reviews the range of recent research addressing these challenges, from social and environmental sustainability to integrated management of pests and diseases based on agroecological principles.

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

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

Pages: 500

Pub. Date: August 2022

Price: £160/\$210/€190

Series No: 111

CHAPTER TITLES

Part 1 Improving social and environmental sustainability; 1. The global importance of coffee production; 2. The coffee sector and its importance for smallholder farmers; 3. Ecosystem services provided by the coffee sector; 4. Environmental and social impact assessment of coffee production; 5. Speciality coffees as drivers of change; 6. Fair-trade coffee: how fair is 'fair?'; 7. Advances in Arabica coffee breeding: developing and selecting the right varieties; 8. Optimizing post-harvest practices in coffee cultivation; **Part 2 Sustainable pest and disease management**; 9. Insect pests affecting coffee: an overview; 10. Diseases affecting coffee: an overview; 11. Coffee leaf rust; 13. Integrated management of nematode pests of coffee; 14. Integrated management of soil-borne insect and fungal pests of coffee; 15. Integrated weed management in coffee production

CEREALS



Advances in understanding insect pests affecting wheat and other cereals

NEW

Editors: Professor Sanford Eigenbrode and Dr Arash Rashed, University of Idaho, USA

This collection reviews the wealth of research on understanding the major insect pests of cereals, including how best to control and monitor them.

Print ISBN: 978-1-80146-113-9

eBook ISBN: 978-1-80146-116-0

Pages: 440

Pub. Date: January 2023

Price: £150/\$195/€180

Series No: 129

CHAPTER TITLES

Part 1 Aphid pests; 1.Russian wheat aphid (*Diuraphis noxia*): overview; 2.Greenbug (*Schizaphis graminum*): overview; 3.Greenbug (*Schizaphis graminum*): plant-insect interactions; 4.Fescue aphid (*Metopolophium festucae*); 5.English grain aphid (*Sitobion avenae*); **Part 2 Gall midges;** 6.Hessian fly (*Mayetiola destructor*): plant-pathogen interactions; 7.Orange Blossom wheat midge (*Sitodiplosis mosellana*); 8.Wheat curl mite (*Aceria tulipae*); **Part 3 Other pests;** 9.Wheat stem sawfly (*Cephus cinctus*); 10.Cereal leaf beetle (*Oulema melanopus*); 11.Wireworms (*Elateridae*); 12.Grasshoppers; **Part 4 Emerging issues;** 13.Newly invasive insect pests of wheat; 14.Biotechnology for wheat crop protection: potential and challenges; 15.On-line decision support systems, remote sensing and AI applications for wheat pests



Developing drought-resistant cereals

NEW

Editor: Professor Roberto Tuberosa, University of Bologna, Italy

This collection 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: 360

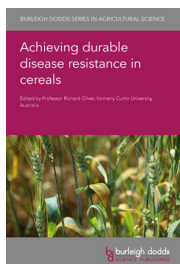
Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 124

CHAPTER TITLES

Part 1 Understanding mechanisms of drought tolerance; 1.Physiological traits affecting water use and water use efficiency in cereals in response to drought stress; 2.The role of growth regulators in regulating tolerance to drought stress in cereals; 3.The role of drought stress-induced proteins in regulating drought resistance in cereals; **Part 2 Techniques for improving resistance;** 4.Identifying and exploiting drought tolerance traits in wild cereals, varieties and landraces; 5.Advances in phenotyping to identify drought-resistance traits in cereal roots; 6.Advances in phenotyping to identify drought-resistance traits in cereal canopies; 7.Advanced genetic techniques to identify and evaluate drought-adaptive loci in cereals; 8.Identifying and exploiting genes related to water use efficiency in improving drought resistance in cereals; 9.Identifying and exploiting genes related to root system architecture in improving drought resistance in cereals; 10.Identifying and exploiting photosynthetic genes in improving drought resistance in cereals; 11.Genomic selection, genome editing and genetic engineering for drought resistance in cereals



Achieving durable disease resistance in cereals

NEW

Editor: Professor Richard Oliver, formerly Curtin University, Australia

This collection reviews advances in the key areas required to achieve durable disease resistance in cereal crops, from advances in understanding pathogen biology/epidemiology and plant pathogen interactions to identifying sources of resistance and advanced techniques for breeding new varieties.

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...** (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

NEW

Editor: Professor Trust Beta, University of Manitoba, Canada

This volume reviews the key research on the nutritional components of cereals, their interactions with the gut and 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

CHAPTER TITLES

Part 1 Nutritional properties of cereals; 1. Advances in understanding the nutritional value of starch in wheat; 2. Advances in understanding the nutritional value of antioxidants in wheat; 3. Advances in understanding the nutritional value of lipids in wheat; 4. Dietary fibers in the prevention of type 2 diabetes mellitus; 5. Fiber-associated wheat lignans and colorectal cancer prevention; **Part 2 Developing nutritionally-enhanced cereal products**; 6. Advances in understanding the genetics of the nutritional properties of cereals: maize and oat proteins; 7. Developments in fractionation methods to improve extraction of aleurone or its beneficial compounds from wheat grain; 8. Wheat flour fortification and human health; 9. Developing hulled wheat-based cereal products with enhanced nutritional properties: emmer, einkorn and spelt; 10. Understanding the nutritional and nutraceutical properties of sorghum; 11. Developing millet-based cereal products with enhanced nutritional properties

HORTICULTURE

**Achieving sustainable turfgrass management****NEW**

Editor: Professor Michael Fidanza, Pennsylvania State University, USA

This collection summarises and 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: 600

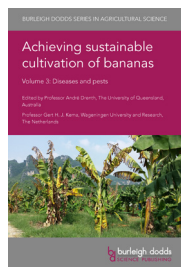
Pub. Date: February 2023

Price: £170/\$220/€205

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 plant nutrition and fertilization of 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.Advances 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... (To view the full table of contents for this title, please visit our website.)

**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 and Research, The Netherlands

This collection reviews the major pests and diseases affecting global banana production and explores the key stages of disease identification, as well as best practices to treat diseased crops and prevent future outbreaks.

Print ISBN: 978-1-78676-981-7

eBook ISBN: 978-1-78676-984-8

Pages: 480

Pub. Date: November 2022

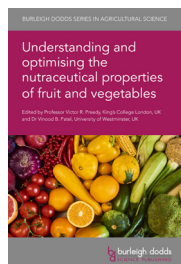
Price: £170/\$220/€205

Series No: 123

CHAPTER TITLES

Part 1 Fungal diseases; 1.Major banana leaf diseases: yellow and black Sigatoka, eumusa leaf spot; 2.Towards sustainable management of banana leaf disease; 3.Fungal diseases of banana: freckle; 4.Fungal diseases of banana: *Fusarium* wilt R1; 5.Fungal diseases of banana: *Fusarium* wilt TR4; 6.Towards sustainable management of *Fusarium* wilt in banana; 7.Minor fungal diseases of banana: Speckle, Rust (*Uredo musae*), Black Cross (*Pyllachora musicola*), Marasmiellus rot, Cigar end (*Verticillium theobroma*), Anthracnose; **Part 2 Bacterial and Phytoplasma diseases;** 8.Bacterial diseases of banana: Moko; 9.Bacterial diseases of banana: banana blood disease; 10.Bacterial diseases of banana: *Xanthomonas* wilt; 11.Minor bacterial diseases of banana: Erwinia, wet rot (*Pectobacterium*); 12.Phytoplasma diseases in banana: banana wilt associated phytoplasma (BWAP) and emerging phytoplasmas; **Part 3 Viral diseases;** 13.Viral diseases of banana: banana bunchy top virus; 14.Viral diseases of banana: banana streak virus; 15.Emerging banana viruses: banana mild mosaic virus, bract mosaic virus, banana mosaic virus, novel banana viruses; **Part 4 Nematode pests of banana;** 16.Nematodes of banana; 17.Towards sustainable management of nematodes in banana; **Part 5 Insect pests of banana;** 18.Insect pests of banana: weevil borer; 19.Insect pests of banana: thrips; 20.Insect pests of banana: common bunch pests and their sustainable management; **Part 6 Disease affecting the fruit;** 22.Management of diseases on banana fruit in the field; 23.Post-harvest diseases in banana and their sustainable management

Available as books and chapters, in print and digital formats



Understanding and optimising the nutraceutical properties of fruit and vegetables

NEW

Editors: Professor Victor Preedy, King's College - University of London, UK and Dr Vinood Patel, University of Westminster, UK

This collection 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: 400

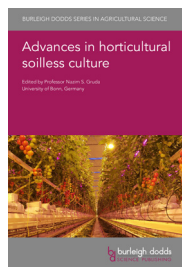
Pub. Date: June 2022

Price: £150/\$195/€180

Series No: 116

CHAPTER TITLES

Part 1 Phytochemical compounds in fruits and vegetables: polyphenols; 1.Advances in understanding the nutraceutical properties of antioxidants in fruits and vegetables; 2.Advances in understanding the nutraceutical properties of phenolic compounds in fruits and vegetables; 3.Understanding the nutraceutical properties of flavonoids in fruits and vegetables; 4.Understanding the nutraceutical properties of flavonoids in fruits and vegetables: mechanisms of action; **Part 2 Phytochemicals in fruits and vegetables: glucosinolates and organosulfur compounds;** 5.Understanding the nutraceutical properties of glucosinolates and their breakdown products: classification and sources; 6.Understanding the nutraceutical properties of glucosinolates: mechanisms of action; 7.Understanding the health benefits and nutraceutical properties of organosulfur compounds in vegetables; **Part 3 Phytochemicals and the prevention of disease;** 8.Advances in understanding the role of plant phytochemicals in preventing cancer; 9.Advances in understanding the role of plant phytochemicals in preventing cardiovascular disease; **Part 4 Analysing and optimising phytochemical compounds in fruits and vegetables...** (To view the full table of contents for this title, please visit our website.)



Advances in horticultural soilless culture

NEW

Editor: Professor Nazim S. Gruda, University of Bonn, Germany

This collection 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

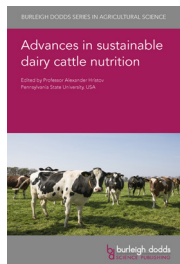
Price: £160/\$210/€190

Series No: 94

CHAPTER TITLES

1.Soilless culture systems and growing media in horticulture: an overview; **Part 1 Materials;** 2.Advances in understanding plant root behaviour and rootzone management in soilless culture systems; 3.Developments in inorganic materials, synthetic organic materials and peat in soilless culture systems; 4.Developments in alternative organic materials for growing media in soilless culture systems; 5.Understanding and optimizing the physical properties of growing media for soilless cultivation; 6.Understanding and optimising the chemical properties of growing media for soilless cultivation; 7.Understanding and optimising the biological properties of growing media for soilless cultivation; **Part 2 Technologies;** 8.Advances in liquid- and solid-medium soilless culture systems; 9.Advances in irrigation/fertigation techniques in greenhouse soilless culture systems (SCS); 10.Advances in nutrient management modelling and nutrient concentration prediction for soilless culture systems; 11.Advanced hydroponics design for plant cultivation in cities; 12.Optimizing product quality in soilless culture systems (SCS); **Part 3 Case studies;** 13.Advances in soilless cultivation of tomatoes and other fruit vegetables; 14.Advances in soilless culture strawberry production; 15.Advances in soilless culture of ornamentals

DAIRY

**Advances in sustainable dairy cattle nutrition****NEW**

Editor: Professor Alexander Hristov, Pennsylvania State University, USA

This collection reviews the wealth of research on recent advances in improving dairy cattle nutrition to balance the needs of animals with minimising the environmental impact of both livestock feed and dairy production.

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

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

Pages: 360

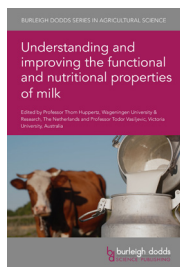
Pub. Date: January 2023

Price: £150/\$195/€180

Series No: 133

CHAPTER TITLES

Part 1 Nutritional requirements; 1.Advances in understanding carbohydrate requirements and utilisation in dairy cattle; 2.Advances in understanding protein requirements and utilisation in dairy cattle; 3.Advances in understanding lipid requirements and utilisation 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 plant extracts as dietary supplements in dairy cow nutrition: condensed tannins; 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 direct-fed microbials (DFM)/probiotics as dietary supplements in dairy cow nutrition: lactic acid bacteria and other bacterial DFM; 8.The use of exogenous enzymes as dietary supplements in dairy cow nutrition; 9.The use of amino acids as dietary supplements in dairy cow nutrition; 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 fibre sources from by-products; 12.Assessing alternative protein sources from by-products

**Understanding and improving the functional and nutritional properties of milk****NEW**

Editors: Professor Thom Huppertz, Wageningen University & Research, The Netherlands and Professor Todor Vasiljevic, Victoria University, Australia

This collection reviews and summarises our current understanding of the functional and nutritional properties of milk to ensure it can be optimised both as a food and as a key ingredient in dairy products.

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

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

Pages: 774

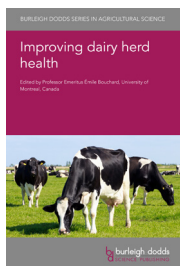
Pub. Date: March 2022

Price: £160/\$210/€190

Series No: 114

CHAPTER TITLES

Part 1 General; 1.The importance of milk and dairy products in the human diet; 2.Milk composition and properties: interspecies comparison; 3.Digestion of milk constituents; **Part 2 Proteins and lipids;** 4.Advances in dairy protein science: caseins and casein micelles; 5.Advances in dairy protein science: whey proteins; 6.Advances in understanding nutritional and bioactive properties of whey; 7.Advances in understanding bioactive properties of dairy peptides; 8.Advances in dairy lipid science: physicochemical aspects; 9.Advances in understanding the nutritional and bioactive properties of dairy lipids; **Part 3 Carbohydrates and other components;** 10.Advances in understanding dairy carbohydrates/lactose and lactose derivatives: physicochemical aspects; 11.Advances in understanding nutritional and bioactive properties of dairy carbohydrates; 12.Advances in understanding indigenous milk enzymes; 13.Advances in understanding milk salts; **Part 4 Optimising milk composition and quality;** 14.Advances in instrumental techniques for monitoring the quality of cow's milk; 15.Genetic factors affecting the composition and quality of cow's milk... (To view the full table of contents for this title, please visit our website.)



Improving dairy herd health

NEW

Editor: Professor Emeritus Émile Bouchard, University of Montreal, Canada

This volume reviews advances in on-farm herd health management to prevent and limit disease amongst dairy cattle. It surveys advances in disease epidemiology and monitoring, ways of optimising cattle immune function as well as enhancing health at different stages in the life cycle.

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

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

Pages: 490

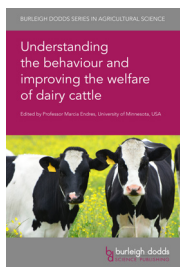
Pub. Date: July 2021

Price: £150/\$195/€180

Series No: 102

CHAPTER TITLES

Part 1 Principles; 1.Key issues in dairy herd health management; 2.Key issues and challenges in disease surveillance in dairy cattle; 3.Advances in techniques for health monitoring/disease detection in dairy cattle; 4.Data-driven decision support tools in dairy herd health; **Part 2 Prerequisites;** 5.Advances in understanding immune response in dairy cattle; 6.Dairy cattle welfare and health: an intimate partnership; **Part 3 Health at different stages in the life cycle;** 7.Optimising reproductive management to maximise dairy herd health and production; 8.Managing dry cow udder health; 9.Managing calves/young stock to optimise dairy herd health; 10.Managing replacement and culling in dairy herds; **Part 4 Particular health issues;** 11.Optimising udder health in dairy cattle; 12.Optimising foot health in dairy cattle; 13.Preventing bacterial diseases in dairy cattle



Understanding the behaviour and improving the welfare of dairy cattle

NEW

Editor: Professor Marcia Endres, University of Minnesota, USA

This collection summarises and reviews the wealth of research relating specifically to dairy cattle, including understanding behaviour, monitoring 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

CHAPTER TITLES

1.Dairy cattle welfare and other aspects of sustainability; **Part 1 Understanding behaviour;** 2.Advances in understanding cognition and learning in cattle; 3.Advances in understanding pain and stress in cows; **Part 2 Welfare indicators and monitoring;** 4.Developing effective welfare measures for cattle; 5.Advances in precision livestock farming techniques for monitoring dairy cattle welfare; 6.Developing effective training and certification schemes for improving on-farm dairy cattle welfare; **Part 3 Improving welfare practices;** 7.Developments in housing of cattle to promote health and welfare; 8.Advances in understanding behavioral needs and improving the welfare of calves and heifers; 9.Advances in understanding the needs and improving the welfare of transition dairy cows; 10.Optimizing welfare in transport and slaughter of cattle

POULTRY

**Improving poultry meat quality****NEW**

Editors: Professor Massimiliano Petracci, University of Bologna, Italy and
Dr Mario Estévez, University of Extremadura, Spain

This collection 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: 330

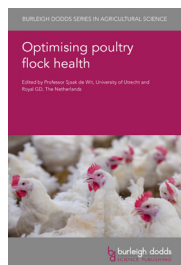
Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 127

CHAPTER TITLES

Part 1 Poultry muscle development and meat quality; 1.Advances in understanding muscle morphology/development in poultry and its impact on meat quality; 2.Understanding the genetics of poultry muscle development; 3.Impact of dietary background; **Part 2 Individual quality attributes: sensory, nutrition and health;** 4.Advances in understanding colour development in poultry meat; 5.Advances in understanding texture development in poultry meat; 6.Advances in understanding flavour development in poultry meat; **Part 3 Poultry myopathies and shelf life;** 7.Quality defects associated with poultry muscle development: deep pectoral myopathy (DPM) and dorsal cranial myopathy (DCM); 8.Quality defects associated with poultry muscle development: pale soft exudative (PSE) meat; 9.Quality defects associated with poultry muscle development: white striping; 10.Quality defects associated with poultry muscle development: spaghetti meat and intramuscular connective tissue (IMCT) defects; 11.Factors affecting shelf-life of poultry meat

**Optimising poultry flock health****NEW**

Editor: Professor Sjaak de Wit, University of Utrecht and Royal GD,
The Netherlands

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

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

Pages: 360

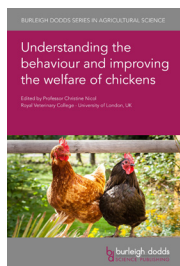
Pub. Date: July 2022

Price: £150/\$195/€180

Series No: 119

CHAPTER TITLES

Part 1 Understanding infectious diseases in poultry; 1.Advances in understanding poultry viral disease transmission/epidemiology; 2.Advances in understanding poultry bacterial disease transmission/epidemiology; 3.Advances in understanding parasite infections of poultry; **Part 2 Preventing diseases in poultry;** 4.Improving biosecurity in poultry flocks; 5.Advances in health monitoring of poultry flocks; 6.Advances in understanding the development and functioning of immune response in poultry; 7.Nutritional strategies to boost immune response in poultry; 8.Developments in vaccines to protect poultry against disease; **Part 3 Optimising health at differing stages in poultry production;** 9.Optimising chick health in poultry hatchery/incubation facilities; 10.Optimising the health of poultry broilers; 11.Optimising the health of poultry layers; 12.Optimising the health of poultry breeder birds



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

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

Pages: 688

Pub. Date: September 2020

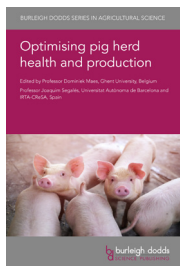
Price: £170/\$220/€205

Series No: 91

CHAPTER TITLES

Part 1 Behaviour; 1.Advances in understanding the genetics of poultry behaviour; 2.Understanding the sensory perception of chickens; 3.Understanding states of suffering with implications for improved management of poultry; 4.Understanding chicken learning and cognition and implications for improved management; 5.Understanding poultry social behaviour and its impact on animal welfare; 6.Poultry welfare monitoring: wearable technologies; 7.Poultry welfare monitoring: group-level technologies; 8.Improving welfare assessment indicators and protocols for poultry; **Part 2 Welfare issues in breeding, management and housing;** 9.Welfare issues affecting broiler breeders; 10.Opportunities to improve the welfare of young chickens; 11.Welfare issues in poultry housing and management: broilers; 12.Welfare issues in poultry housing and management: laying hens; 13.The role of perches in chicken welfare; 14.Improving welfare in catching and transport of chickens; 15.Improving welfare in poultry slaughter; 16.Cause and prevention of injurious pecking in chickens; 17.Bone health and associated problems in layer hens; 18.Poultry health monitoring and management: bone and skin health in broilers

PIGS



Optimising pig herd health and production

NEW

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Series No: 118

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PIGS



Understanding gut microbiomes as targets for improving pig gut health

NEW

Editors: Professor Mick Bailey and Emeritus Professor Chris Stokes, University of Bristol, UK

This collection summarises current research on the structure and function of the gastrointestinal tract in pigs, the factors that can influence its effectiveness, as well as the nutritional strategies that can improve gut development and optimise gut function.

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

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

Pages: 504

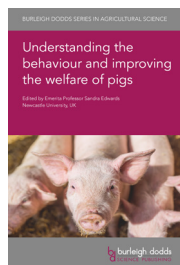
Pub. Date: January 2022

Price: £150/\$195/€180

Series No: 103

CHAPTER TITLES

Part 1 The gut microbiome and pig gut health; 1. Microbial ecosystems as targets for improving pig gut health; 2. Metabolic services of intestinal microbiota of swine: metabolism of carbohydrates and bile salts; 3. Microbiological services delivered by the pig gut microbiome; **Part 2 Analysing the pig gut microbiome;** 4. The gut microbiota in pigs: ecology and biotherapeutics; 5. Understanding the relationship between the microbiome and the structure and function of the pig gastrointestinal tract; 6. Understanding the development of the gut microbiome in pigs: an overview; **Part 3 Techniques to optimise gut function by manipulating gut microbiomes;** 7. The use of prebiotics to optimize gut function in pigs; 8. The use of dietary fibre to optimize microbial gut function in pigs, with particular consideration of dietary cereal grains and legumes; 9. The use of exogenous enzymes to optimize gut function in pigs; 10. Improving gut function in pigs to prevent dysbiosis and postweaning diarrhoea; 11. Improving gut function in pigs to prevent pathogen colonization; 12. Microbial protein metabolism in the monogastric gastrointestinal tract: a review



Understanding the behaviour and improving the welfare of pigs

NEW

Editor: Emerita Professor Sandra Edwards, Newcastle University, UK

This collection 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

CHAPTER TITLES

Part 1 Determinants of behaviour; 1. Advances in understanding the genetics of pig behaviour; 2. Developmental influences on pig behaviour; **Part 2 Management of behaviour in different production stages;** 3. Optimising pig welfare in breeding and gestation; 4. Optimising sow and piglet welfare during farrowing and lactation; 5. Optimising pig welfare at the weaning and nursery stage; 6. Optimizing pig welfare in the growing and finishing stage; 7. Optimising pig welfare during transport, lairage and slaughter; **Part 3 Current welfare issues;** 8. Evidence of pain in piglets subjected to invasive management procedures; 9. Alternatives to castration of pigs; 10. Understanding and preventing tail biting in pigs; 11. The role of enrichment in optimizing pig behaviour and welfare; **Part 4 Assessment of welfare states;** 12. Physiological and behavioral responses to disease in pigs; 13. Assessing emotions in pigs: determining negative and positive mental states; 14. Welfare assessment of pigs; 15. Advances in technologies for monitoring pig welfare

LIVESTOCK MANAGEMENT



Advances in precision livestock farming

NEW

Editor: Professor Daniel Berckmans, Katholieke University of Leuven, Belgium

This collection 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: 300

Pub. Date: May 2022

Price: £150/\$195/€180

Series No: 105

CHAPTER TITLES

Part 1 Data collection and analysis; 1.Developments in wearable sensors for monitoring livestock; 2.Developments in thermal imaging techniques to assess livestock health; 3.Developments in acoustic techniques to assess livestock health; 4.Developments in machine vision techniques to monitor livestock behaviour and health; 5.Developments in activity/location technologies for monitoring livestock movement/behaviour; 6.Developments in data analysis for decision-making in precision livestock farming systems; **Part 2 Applications;** 7.Automated monitoring and control of livestock housing conditions; 8.Developments in automated/precision feeding systems for livestock; 9.Developments in automated systems for monitoring livestock health: mastitis; 10.Developments in automated systems for monitoring livestock health: lameness; 11.Developments in automated monitoring of livestock fertility/pregnancy; 12.Advances in robotic milking systems; 13.Developments in monitoring grazing behaviour and automated grazing management



Seaweed and microalgae as alternative sources of protein

NEW

Editor: Professor Xin Gen Lei, Cornell University, USA

This collection 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

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

LIVESTOCK MANAGEMENT



Developing animal feed products

NEW

Editor: Dr Navaratnam Partheeban, formerly Royal Agricultural University, UK

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. It also summarises recent key developments in the sector, including a better understanding of gut function.

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

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

Pages: 256

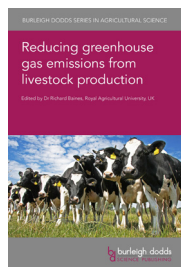
Pub. Date: June 2021

Price: £150/\$195/€180

Series No: 101

CHAPTER TITLES

Part 1 Developing animal products; 1. Techniques for identifying new animal feed ingredients and additives; 2. Effect of processing techniques on the quality of animal feed; 3. Processing techniques to optimize digestibility and nutritional value of animal feed; 4. Trends in analytical techniques for testing animal feed; **Part 2 Quality and safety assurance;** 5. Developments in techniques to test the efficacy of animal feed products; 6. Advances in understanding key contamination risks in animal feed; 7. Risk management systems for prevention and control of contaminants in animal feed; 8. Developing effective product dossiers for regulatory approval of new animal feed products



Reducing greenhouse gas emissions from livestock production

NEW

Editor: Dr Richard Baines, Royal Agricultural University, UK

This collection 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

CHAPTER TITLES

Part 1 Analysis; 1. Measuring methane emissions from livestock; 2. Greenhouse gas emissions from livestock production: modelling methods, methane emission factors and mitigation strategies; **Part 2 Breeding, animal husbandry and manure management;** 3. The contribution of animal breeding to reducing the environmental impact of livestock production; 4. Quantifying the contribution of livestock health issues to the environmental impact of their production systems; 5. Sustainable nitrogen management for housed livestock, manure storage and manure processing; 6. Developments in anaerobic digestion to optimize the use of livestock manure; **Part 3 Nutrition;** 7. The impact of improving feed efficiency on the environmental impact of livestock production; 8. Improving grassland/forage quality and management to reduce livestock greenhouse gas emissions; 9. The use of plant bioactive compounds to reduce greenhouse gas emissions from farmed ruminants; 10. The use of feed supplements to reduce livestock greenhouse gas emissions: direct-fed microbials; 11. Modifying the rumen environment to reduce greenhouse gas emissions

LIVESTOCK HEALTH & WELFARE



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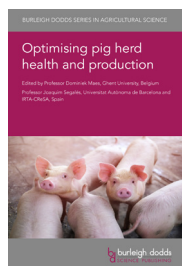
Pub. Date: July 2022

Price: £150/\$195/€180

Series No: 119

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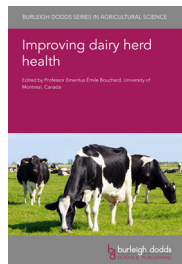
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LIVESTOCK HEALTH & WELFARE



Improving dairy herd health

NEW

Editor: Professor Emeritus Émile Bouchard, University of Montreal, Canada

This volume reviews advances in on-farm herd health management to prevent and limit disease amongst dairy cattle. It surveys advances in disease epidemiology and monitoring, ways of optimising cattle immune function as well as enhancing health at different stages in the life cycle.

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

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

Pages: 490

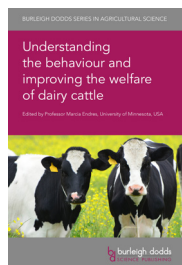
Pub. Date: July 2021

Price: £150/\$195/€180

Series No: 102

CHAPTER TITLES

Part 1 Principles; 1.Key issues in dairy herd health management; 2.Key issues and challenges in disease surveillance in dairy cattle; 3.Advances in techniques for health monitoring/disease detection in dairy cattle; 4.Data-driven decision support tools in dairy herd health; **Part 2 Prerequisites;** 5.Advances in understanding immune response in dairy cattle; 6.Dairy cattle welfare and health: an intimate partnership; **Part 3 Health at different stages in the life cycle;** 7.Optimising reproductive management to maximise dairy herd health and production; 8.Managing dry cow udder health; 9.Managing calves/young stock to optimise dairy herd health; 10.Managing replacement and culling in dairy herds; **Part 4 Particular health issues;** 11.Optimising udder health in dairy cattle; 12.Optimising foot health in dairy cattle; 13.Preventing bacterial diseases in dairy cattle



Understanding the behaviour and improving the welfare of dairy cattle

NEW

Editor: Professor Marcia Endres, University of Minnesota, USA

This collection summarises and reviews the wealth of research relating specifically to dairy cattle, including understanding behaviour, monitoring welfare and improving current welfare practices.

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

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

Pages: 274

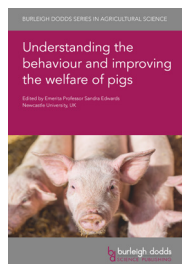
Pub. Date: February 2021

Price: £150/\$195/€180

Series No: 98

CHAPTER TITLES

1.Dairy cattle welfare and other aspects of sustainability; **Part 1 Understanding behaviour;** 2.Advances in understanding cognition and learning in cattle; 3.Advances in understanding pain and stress in cows; **Part 2 Welfare indicators and monitoring;** 4.Developing effective welfare measures for cattle; 5.Advances in precision livestock farming techniques for monitoring dairy cattle welfare; 6.Developing effective training and certification schemes for improving on-farm dairy cattle welfare; **Part 3 Improving welfare practices;** 7.Developments in housing of cattle to promote health and welfare; 8.Advances in understanding behavioral needs and improving the welfare of calves and heifers; 9.Advances in understanding the needs and improving the welfare of transition dairy cows; 10.Optimizing welfare in transport and slaughter of cattle



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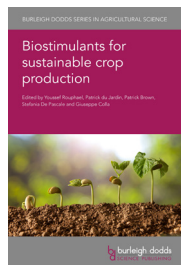
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Series No: 91

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CROP MANAGEMENT



Biostimulants for sustainable crop production

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

- **The first comprehensive review of key advances in biostimulant research**
- **Covers key groups of biostimulants: humic substances, seaweed extracts, protein hydrolysates, silicon, plant growth-promoting rhizobacteria (PGPR) and arbuscular mycorrhizal fungi (AMF)**
- **Discusses key advances in research and practical applications of biostimulants in the field**

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

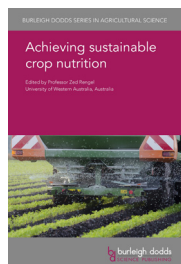
eBook ISBN: 978-1-78676-339-6

Pages: 386

Pub. Date: July 2020

Price: £150/\$195/€180

Series No: 84



Achieving sustainable crop nutrition

Editor: Professor Zed Rengel, University of Western Australia, Australia

- **Focus on integrating research on nutrient cycling, crop nutrient processing and the environmental impact of fertiliser use to identify ways of improving nutrient use efficiency (NUE) in the use of particular fertilisers**
- **Includes research on a range of secondary macronutrients and micronutrients including: calcium, magnesium, zinc, boron and manganese**
- **Reviews a wide range of options for reducing/optimising current levels of fertiliser use**

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

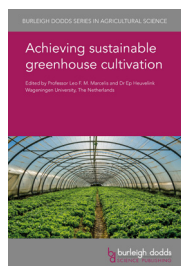
eBook ISBN: 978-1-78676-315-0

Pages: 830

Pub. Date: February 2020

Price: £190/\$245/€230

Series No: 76



Achieving sustainable greenhouse cultivation

Editors: Professor Leo F. M. Marcelis and Dr Ep Heuvelink, Wageningen University, The Netherlands

- **Reviews advantages and disadvantages of different protected cultivation systems, such as greenhouses and vertical farming systems**
- **Detailed assessment of current research on optimising the two main variables in protected cultivation: the aerial environment and root development**
- **Particular focus on systems control to optimise product quality and environmental impact**

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

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

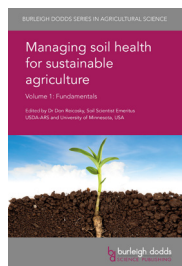
Pages: 538

Pub. Date: September 2019

Price: £170/\$220/€205

Series No: 63

SOIL & WATER MANAGEMENT



Managing soil health for sustainable agriculture - Volume 1 Fundamentals

Editor: Dr Don Reicosky, Soil Scientist Emeritus, ARS-USDA and University of Minnesota, USA

- Puts soil health in the broader context of ecosystem services, conservation and climate change
- Summarises current research on soil structure and composition
- Reviews latest developments in understanding nutrient and other cycles in soil

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, Soil Scientist Emeritus, ARS-USDA and University of Minnesota, USA

- Discusses key methods for monitoring soil health
- Comprehensive review of techniques to manage soil health, such as rotations and intercropping
- Case studies of ways of supporting smallholders in maintaining soil health in regions such as Africa, Asia and South America

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

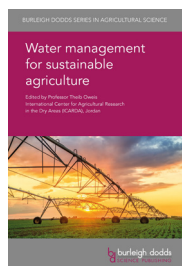
eBook ISBN: 978-1-78676-195-8

Pages: 462

Pub. Date: August 2018

Price: £180/\$235/€215

Series No: 49



Water management for sustainable agriculture

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

- Comprehensive review of the range of water resources, from groundwater and surface water to rainwater, floodwater and waste water
- Discusses advances in irrigation techniques, from surface irrigation to micro/drip irrigation and fertigation
- Assesses methods for optimising agricultural water use in rainfed and other systems

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

INSECT PESTS, DISEASES & WEEDS



Biopesticides for sustainable agriculture

Editors: Professor Nick Birch, formerly The James Hutton Institute, UK and Professor Travis Glare, Lincoln University, New Zealand

- Reviews key steps in biopesticide product development, including the role of regulatory approval processes
- Comprehensive coverage of the range of biopesticides, from microbial to natural substance-based biopesticides
- Strong focus on pheromone and allelochemical semiochemicals as well as peptide-based 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



Integrated management of insect pests

Current and future developments

Editors: Emeritus Professor Marcos Kogan, Oregon State University, USA and Emeritus Professor E. A. Heinrichs, University of Nebraska-Lincoln, USA

- Particular focus on advances in understanding insect species and landscape ecology, which provide the foundations for effective IPM
- Covers latest research on classical, conservation and augmentative biological control
- Reviews key developments in use of entomopathogenic fungi, viruses and nematodes

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, NIAB-EMR, UK

- Comprehensive review of current research on the causes of major fungal, bacterial and viral diseases of tree fruit, such as apple canker, plum pox virus and powdery mildew
- Summarises current understanding of the ecology of key insect pests of tree fruit
- Assesses ways of improving integrated disease and pest management, with a particular focus on biological control

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



Critical issues in plant health 50 years of research in African agriculture

Editors: Dr Peter Neuenschwander and Dr Manuele Tamò, IITA, Benin

- Focuses on managing threats to plant health in sub-Saharan Africa which are key to improving yields
- Reviews ways of improving the health of key African crops such as cassava, maize, bananas and grain legumes
- Assesses the role of integrated pest management programmes in mitigating the major threats to plant health

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

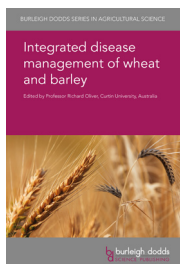
eBook ISBN: 978-1-78676-235-1

Pages: 492

Pub. Date: February 2019

Price: £170/\$220/€205

Series No: 58



Integrated disease management of wheat and barley

Editor: Professor Richard Oliver, Curtin University, Australia

- Reviews key recent research on the main fungal diseases, their modes of infection and potential strategies for dealing with them
- Summarises the range of techniques available for breeding more resistant varieties of wheat and barley
- Assesses ways to manage fungicide resistance and the range of methods in developing integrated disease management of cereals

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

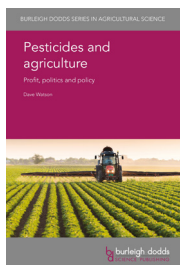
eBook ISBN: 978-1-78676-219-1

Pages: 366

Pub. Date: October 2018

Price: £170/\$220/€205

Series No: 19



Pesticides and agriculture Profit, politics and policy

Author: Dave Watson

- Discusses the competitive strategies implemented by some of the major pesticide companies
- Identifies and provides context to the main forces driving the pesticides industry
- Explains the evolution of the pesticide industry as a context for understanding its future development

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

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

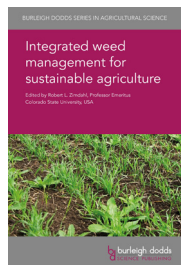
Pages: 418

Pub. Date: August 2018

Price: £170/\$220/€205

Series No: 67

INSECT PESTS, DISEASES & WEEDS



Integrated weed management for sustainable agriculture

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

- Summarises latest research on integrated weed management principles and methods
- Assesses current challenges facing herbicide use, including the emergence of herbicide resistance, as well as the need to use more sustainable crop protection products
- Detailed review of the range of cultural, physical and biological methods of control available for integrated weed management

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



Rice insect pests and their management

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

- Covers almost 100 species of the most important insect pests affecting rice cultivation
- Brings together the key research on each pest, including description and biology and effects on rice plants
- Written by a team of leading entomologists with experience of rice pests
- Includes over 150 photographs and images

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

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

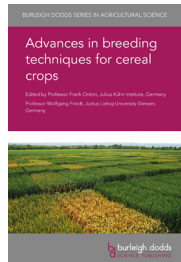
Pages: 292

Pub. Date: June 2017

Price: £180/\$235/€215

Series No: 50

PHYSIOLOGY & BREEDING



Advances in breeding techniques for cereal crops

Editors: Professor Frank Ordon, Julius Kühn-Institute, Germany and Professor Wolfgang Friedt, Justus-Liebig University of Giessen, Germany

- Assesses performance of conventional techniques such as backcross and hybrid breeding in introducing new traits
- Maps current progress in methods to identify quantitative trait loci linking phenotypic traits with genetic information for selection
- Shows comparative strengths and weaknesses of marker-assisted selection techniques such as genome-wide association studies

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

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

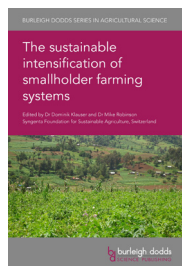
Pages: 612

Pub. Date: June 2019

Price: £190/\$245/€230

Series No: 60

SUSTAINABILITY & ENVIRONMENT



The sustainable intensification of smallholder farming systems

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

- **Strong coverage of improving smallholder access to key inputs, from seeds to nutrition and pest management**
- **Reviews ways of improving public and private sector extension support as well as market access for smallholders**
- **Chapter authors mix research expertise and practical experience of successful project implementation on the ground**

Print ISBN: 978-1-78676-430-0

eBook ISBN: 978-1-78676-433-1

Pages: 446

Pub. Date: November 2020

Price: £180/\$235/€215

Series No: 93



Reconciling agricultural production with biodiversity conservation

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

- **Covers the theoretical framework underpinning biodiversity conservation in agriculture, as well as key developments in areas such as mapping and modelling diversity**
- **Comprehensive review of the range of biodiversity conservation practices such as field margins and hedgerows**
- **Includes case studies of successful biodiversity conservation programmes**

Print ISBN: 978-1-78676-348-8

eBook ISBN: 978-1-78676-351-8

Pages: 282

Pub. Date: September 2020

Price: £150/\$195/€180

Series No: 87



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

- **Explores the impacts of climate change on agriculture and the contribution of agriculture to climate change**
- **Highlights advances in ways of predicting the effects of agriculture and climate change on one another**
- **Builds on this foundation to outline key mitigation strategies to achieve a more 'climate-smart' agriculture**

Print ISBN: 978-1-78676-320-4

eBook ISBN: 978-1-78676-323-5

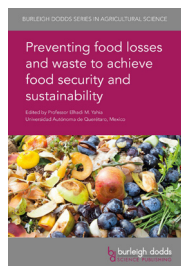
Pages: 404

Pub. Date: April 2020

Price: £150/\$195/€180

Series No: 78

SUSTAINABILITY & ENVIRONMENT



Preventing food losses and waste to achieve food security and sustainability

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

- **The first comprehensive review of the causes and prevention of food losses and waste (FLW), bringing together leading experts from around the world**
- **Multi-dimensional approach in addressing the problem of FLW from a range of perspectives: key stages in the supply chain, different types of commodity and different regions in the world**
- **Valuable case studies from different regions on practical measures to tackle FLW**

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

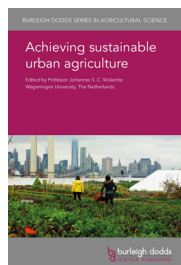
eBook ISBN: 978-1-78676-303-7

Pages: 852

Pub. Date: March 2020

Price: £190/\$245/€230

Series No: 70



Achieving sustainable urban agriculture

Editor: Professor Johannes S. C. Wiskerke, Wageningen University, The Netherlands

- **Strong focus on infrastructural requirements for successful urban agriculture, such as public policy, planning frameworks and business models**
- **Covers developments in key technologies such as rooftop and vertical farming, as well as waste management**
- **Includes case studies of particular commodities, including horticultural produce, livestock and forestry**

© Cover Image Brooklyn Grange Rooftop Farm

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

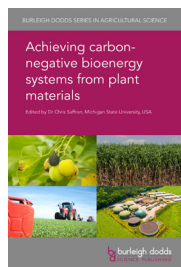
eBook ISBN: 978-1-78676-319-8

Pages: 408

Pub. Date: February 2020

Price: £150/\$195/€180

Series No: 77



Achieving carbon-negative bioenergy systems from plant materials

Editor: Dr Chris Saffron, Michigan State University, USA

- **Focus on net carbon capture bioenergy technologies which fully address the challenge of climate change**
- **Explores best practices for optimising use of co-products and non-food plant materials as biofuel**
- **A comprehensive review of the key technologies and products, covering both principles and practical applications**

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

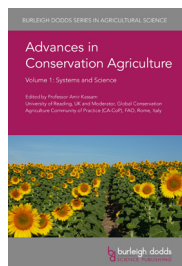
eBook ISBN: 978-1-78676-255-9

Pages: 410

Pub. Date: February 2020

Price: £150/\$195/€180

Series No: 64



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

- **Reviews the development of Conservation Agriculture (CA) systems globally and elaborates on science underlying the key system components**
- **Assesses the latest evidence on improving soil and crop health through the application of the core CA system principles**
- **Includes case studies reviewing current science on optimising CA cropping systems as well as integrating livestock in CA systems**

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

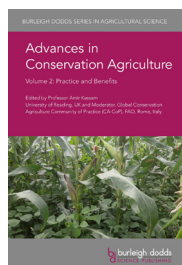
eBook ISBN: 978-1-78676-267-2

Pages: 602

Pub. Date: January 2020

Price: £150/\$195/€180

Series No: 61



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

- **Summarises the ecological, economic and social benefits of Conservation Agriculture (CA)**
- **Explores how CA systems make efficient use of production inputs**
- **Reviews the central issues of improvement in yield, profitability and ecosystem services as well as climate change adaptability and mitigation**

Print ISBN: 978-1-78676-268-9

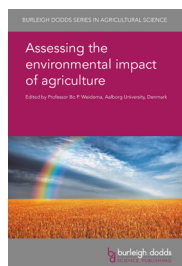
eBook ISBN: 978-1-78676-271-9

Pages: 498

Pub. Date: January 2020

Price: £150/\$195/€180

Series No: 62



Assessing the environmental impact of agriculture

Editor: Professor Bo P. Weidema, Aalborg University, Denmark

- **Assesses current best practices and methodological issues in life cycle assessment methodology for agriculture**
- **Reviews ways of modelling particular types of impact, from nutrient cycles to freshwater balances and pesticide use**
- **Discusses the environmental assessment and optimization of sectors such as crops, ruminant and other livestock production as well as by-products**

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

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

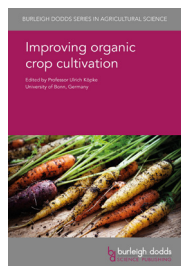
Pages: 386

Pub. Date: August 2019

Price: £160/\$210/€190

Series No: 57

SUSTAINABILITY & ENVIRONMENT



Improving organic crop cultivation

Editor: Professor Ulrich Köpke, University of Bonn, Germany

- Reviews key advances and best practice in cultivation techniques across the value chain of organic farming
- Discusses ways of monitoring and improving the environmental impact of organic crop production
- Particular focus on ways of supporting organic farming in the developing world, with chapters dedicated to: East Africa, Africa, Asia and Latin America

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

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

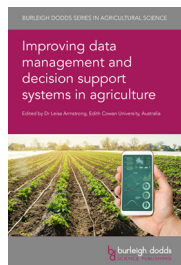
Pages: 568

Pub. Date: November 2018

Price: £180/\$235/€215

Series No: 47

TECHNOLOGY & DATA



Improving data management and decision support systems in agriculture

Editor: Dr Leisa Armstrong, Edith Cowan University, Australia

- Reviews key steps in improving data management, from improving data access to effective tagging for discoverability
- Covers a wide range of practical applications of decision support systems (DSS) in crop production, such as crop planting and use of rotations
- Includes the use of DSS in key areas of livestock production

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

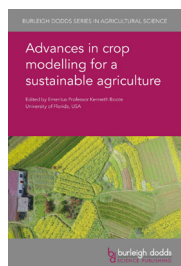
eBook ISBN: 978-1-78676-343-3

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, University of Florida, USA

- Focus on development of next generation of whole farm models to improve decision making and support for farmers
- Addresses the challenges of combining modular sub-systems into whole farm system models
- Reviews the performance of specific models such as the Agricultural Production Systems sIMulator (APSIM) and the Decision Support System for Agrotechnology Transfer (DSSAT)

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

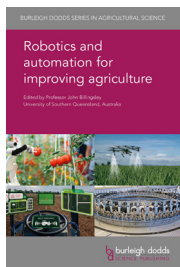
eBook ISBN: 978-1-78676-243-6

Pages: 542

Pub. Date: December 2019

Price: £180/\$235/€215

Series No: 75



Robotics and automation for improving agriculture

Editor: Professor John Billingsley, University of Southern Queensland, Australia

- **Primary focus on developing fully autonomous robotic systems in agriculture**
- **Comprehensive review of advances in the key technologies underpinning agricultural robotics**
- **Particularly strong coverage of the applications of agricultural robotics in different aspects of crop management from planting to harvesting**

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

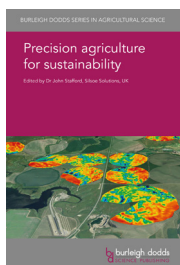
eBook ISBN: 978-1-78676-275-7

Pages: 326

Pub. Date: June 2019

Price: £160/\$210/€190

Series No: 44



Precision agriculture for sustainability

Editor: Dr John Stafford, Silsoe Solutions, UK

- **Comprehensive review of key technologies in precision agriculture, from proximal and remote sensing to decision support systems and variable rate technologies**
- **Surveys key applications of precision agriculture from controlled traffic farming to site-specific nutrient and water management**
- **Includes discussion of the economics of precision agriculture**

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

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

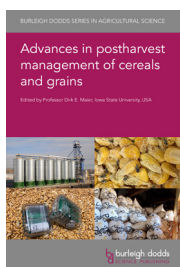
Pages: 514

Pub. Date: November 2018

Price: £180/\$235/€215

Series No: 52

POSTHARVEST



Advances in postharvest management of cereals and grains

Editor: Professor Dirk E. Maier, Iowa State University, USA

- **Explores the latest research on the most common causes of cereal postharvest losses, such as pests and disease**
- **Provides a comprehensive review of the strengths and weakness of different technologies to control postharvest insect pests of cereals, including the use of controlled atmosphere and temperature control**
- **Covers latest research on the detection and control of fungal contaminants**

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

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

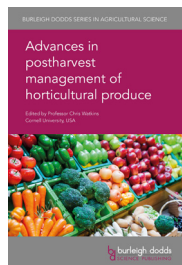
Pages: 478

Pub. Date: August 2020

Price: £150/\$195/€180

Series No: 88

POSTHARVEST



Advances in postharvest management of horticultural produce

Editor: Professor Chris Watkins, Cornell University, USA

- Focuses on advances in preservation technologies such as advanced modelling of cooling patterns, dynamic controlled atmosphere and improving use of 1-MCP as an ethylene inhibitor
- Reviews strengths and weaknesses of different disinfection techniques, such as the use of sanitisers, hot water or air, irradiation, plasma, ozone and natural antimicrobials
- Covers developments in smart supply chain and distribution monitoring and management

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

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

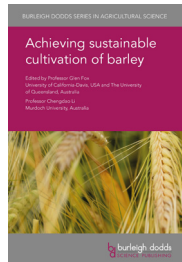
Pages: 464

Pub. Date: January 2020

Price: £150/\$195/€180

Series No: 66

CEREALS



Achieving sustainable cultivation of barley

Editors: Professor Glen Fox, University of California-Davis, USA and University of Queensland, Australia and Professor Chengdao Li, Murdoch University, Australia

- Strong focus on advances in understanding barley physiology which inform decisions about breeding and cultivation
- Detailed coverage of molecular breeding techniques such as genome-wide association studies and targeted induced lesions in genomes
- Covers latest research on optimising barley for particular end uses

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

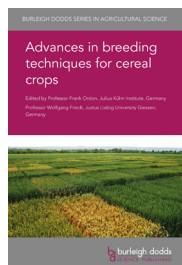
eBook ISBN: 978-1-78676-311-2

Pages: 528

Pub. Date: February 2020

Price: £170/\$220/€205

Series No: 74



Advances in breeding techniques for cereal crops

Editors: Professor Frank Ordon, Julius Kühn-Institute, Germany and Professor Wolfgang Friedt, Justus-Liebig University of Giessen, Germany

- Assesses performance of conventional techniques such as backcross and hybrid breeding in introducing new traits
- Maps current progress in methods to identify quantitative trait loci linking phenotypic traits with genetic information for selection
- Shows comparative strengths and weaknesses of marker-assisted selection techniques such as genome-wide association studies

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

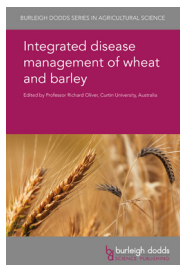
eBook ISBN: 978-1-78676-247-4

Pages: 612

Pub. Date: June 2019

Price: £190/\$245/€230

Series No: 60



Integrated disease management of wheat and barley

Editor: Professor Richard Oliver, Curtin University, Australia

- Reviews key recent research on the main fungal diseases, their modes of infection and potential strategies for dealing with them
- Summarises the range of techniques available for breeding more resistant varieties of wheat and barley
- Assesses ways to manage fungicide resistance and the range of methods in developing integrated disease management of cereals

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

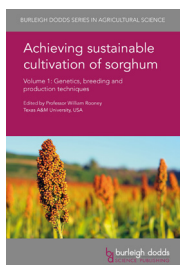
Pub. Date: October 2018

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

Price: £170/\$220/€205

Pages: 366

Series No: 19



Achieving sustainable cultivation of sorghum - Volume 1

Genetics, breeding and production techniques

Editor: Professor William Rooney, Texas A&M University, USA

- Comprehensive coverage of the latest research on the genetic diversity of sorghum
- Reviews key developments in breeding, from conventional to marker-assisted techniques, as well their application in developing higher-yielding, more stress-resistant varieties
- Discusses key elements in integrated crop, pest and weed management

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

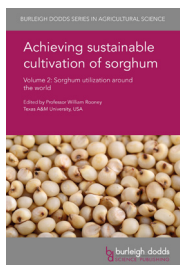
Pub. Date: July 2018

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

Price: £160/\$210/€190

Pages: 546

Series No: 31



Achieving sustainable cultivation of sorghum - Volume 2

Sorghum utilization around the world

Editor: Professor William Rooney, Texas A&M University, USA

- Discusses latest research on sorghum structure, growth, chemistry and physiology
- Reviews varied uses of sorghum as a feed and food grain, forage and energy crop
- Includes case studies of key challenges facing sorghum cultivation in regions such as Asia, Africa and South America

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

CEREALS

**Achieving sustainable cultivation of wheat - Volume 1****Breeding, quality traits, pests and diseases**

Editor: Professor Peter Langridge, University of Adelaide, Australia

- Discusses ways of ensuring genetic diversity, advances in wheat breeding and their use to improve properties such as drought resistance
- Summarises research on factors affecting the nutritional and processing quality of wheat
- Reviews advances in understanding wheat pests and diseases together with ways of controlling them such as disease-resistant varieties

Print ISBN: 978-1-78676-016-6

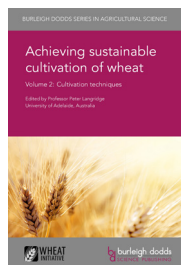
eBook ISBN: 978-1-78676-019-7

Pages: 686

Pub. Date: July 2017

Price: £190/\$245/€230

Series No: 05

**Achieving sustainable cultivation of wheat - Volume 2****Cultivation techniques**

Editor: Professor Peter Langridge, University of Adelaide, Australia

- Reviews advances in cultivation practice such as seed establishment and more efficient irrigation techniques
- Summarises developments in 'climate-smart' agriculture such as conservation tillage and organic wheat cultivation
- Discusses ways of supporting smallholders improve wheat cultivation in North Africa and other regions in the developing world

Print ISBN: 978-1-78676-020-3

eBook ISBN: 978-1-78676-023-4

Pages: 350

Pub. Date: July 2017

Price: £130/\$170/€155

Series No: 06

**Achieving sustainable cultivation of maize - Volume 1****From improved varieties to local applications**

Editor: Dr Dave Watson, formerly CGIAR Maize Research Program Manager, CIMMYT, Mexico

- Reviews key challenges and advances in maize breeding methods to meet the challenge of climate change
- Discusses the development of varieties with enhanced nutritional and other properties such as improved protein content and abiotic stress resistance
- Summarises key steps being taken to support smallholders growing maize in developing countries

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

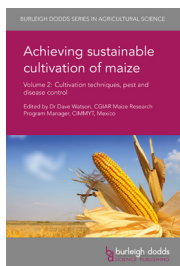
eBook ISBN: 978-1-78676-011-1

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, formerly CGIAR Maize Research Program Manager, CIMMYT, Mexico

- Summarises current good agricultural practice in maize cultivation, from seed selection and nutrient management to conservation agriculture
- Reviews advances in understanding and managing diseases and pests such as viruses, nematodes and weeds
- Discusses good agricultural practices for maize cultivation, as well as the ways maize cultivation can be made more 'climate-smart'

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



Rice insect pests and their management

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

- Covers almost 100 species of the most important insect pests affecting rice cultivation
- Brings together the key research on each pest, including description and biology and effects on rice plants
- Written by a team of leading entomologists with experience of rice pests
- Includes over 150 photographs and images

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



Achieving sustainable cultivation of rice - Volume 1

Breeding for higher yield and quality

Editor: Professor Takuji Sasaki, Tokyo University of Agriculture, Japan

- Reviews developments in understanding and protecting genetic diversity in rice, and how this translates into marker-assisted and other developments in breeding
- Discusses advances in breeding varieties with enhanced properties such as high yield and drought tolerance
- Summarises current research on understanding and improving nutritional properties such as vitamin and mineral content

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

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

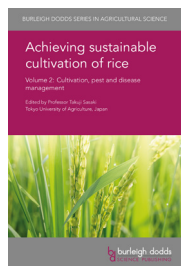
Pages: 298

Pub. Date: May 2017

Price: £140/\$180/€170

Series No: 03

CEREALS



Achieving sustainable cultivation of rice - Volume 2

Cultivation, pest and disease management

Editor: Professor Takuji Sasaki, Tokyo University of Agriculture, Japan

- Summarises advances in cultivation practices to close yield gaps, including more efficient irrigation and nutrition techniques
- Discusses innovative methods of 'climate-smart' cultivation such as integrated crop management and the system of rice intensification
- Reviews the latest research on insect pests, weeds and integrated pest management

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

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

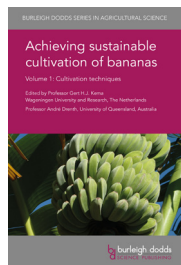
Pages: 438

Pub. Date: May 2017

Price: £150/\$195/€180

Series No: 04

HORTICULTURE



Achieving sustainable cultivation of bananas - Volume 1

Cultivation techniques

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

- Assesses current yields and constraints in improving productivity by region
- Discusses the key stages in cultivation needed to make banana production more efficient
- Reviews ways of improving the sustainability of banana cultivation

Print ISBN: 978-1-78676-156-9

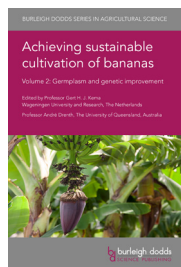
eBook ISBN: 978-1-78676-159-0

Pages: 378

Pub. Date: October 2018

Price: £170/\$220/€205

Series No: 40



Achieving sustainable cultivation of bananas - Volume 2

Germplasm and genetic improvement

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

- Focus on key issues in expanding the genetic base for Musa, including exploiting current collections of germplasm
- Covers methods for improving fertility, resistance and other traits in Cavendish
- Reviews the range of conventional and modern molecular techniques for breeding new banana varieties

Print ISBN: 978-1-78676-344-0

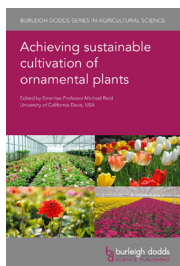
eBook ISBN: 978-1-78676-347-1

Pages: 426

Pub. Date: November 2020

Price: £170/\$220/€205

Series No: 86



Achieving sustainable cultivation of ornamental plants

Editor: Emeritus Professor Michael Reid, University of California-Davis, USA

- **Strong focus on environmental physiology, abiotic stress and breeding more abiotic stress-resistant varieties**
- **Reviews range of advanced marker-assisted breeding techniques, including gene editing**
- **Discusses key advances in the value chain to improve resource use for more sustainable production**

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

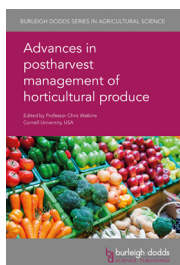
eBook ISBN: 978-1-78676-331-0

Pages: 444

Pub. Date: April 2020

Price: £150/\$195/€180

Series No: 82



Advances in postharvest management of horticultural produce

Editor: Professor Chris Watkins, Cornell University, USA

- **Focuses on advances in preservation technologies such as advanced modelling of cooling patterns, dynamic controlled atmosphere and improving use of 1-MCP as an ethylene inhibitor**
- **Reviews strengths and weaknesses of different disinfection techniques, such as the use of sanitisers, hot water or air, irradiation, plasma, ozone and natural antimicrobials**
- **Covers developments in smart supply chain and distribution monitoring and management**

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

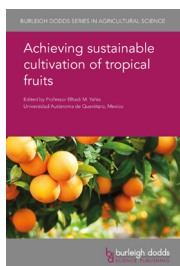
eBook ISBN: 978-1-78676-291-7

Pages: 464

Pub. Date: January 2020

Price: £150/\$195/€180

Series No: 66



Achieving sustainable cultivation of tropical fruits

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

- **Highlights key innovations in citrus cultivation, from genetics to precision agriculture and integrated pest management**
- **Covers advances in breeding and cultivation of a range of soft tropical fruits, including banana, lychee, papaya and pomegranate**
- **Broad coverage of key stone tropical and subtropical fruits, including avocado, coconut, guava, jackfruit and mangoes**

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

HORTICULTURE



Integrated management of diseases and insect pests of tree fruit

Editors: Professor Xiangming Xu and Dr Michelle Fountain, NIAB-EMR, UK

- Comprehensive review of current research on the causes of major fungal, bacterial and viral diseases of tree fruit, such as apple canker, plum pox virus and powdery mildew
- Summarises current understanding of the ecology of key insect pests of tree fruit
- Assesses ways of improving integrated disease and pest management, with a particular focus on biological control

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

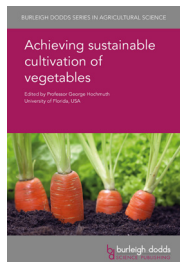
eBook ISBN: 978-1-78676-259-7

Pages: 748

Pub. Date: September 2019

Price: £190/\$245/€230

Series No: 68



Achieving sustainable cultivation of vegetables

Editor: Professor George Hochmuth, University of Florida, USA

- Discusses recent advances in research on understanding vegetable physiology and genetics
- Comprehensive review of research on best practice in cultivation, including soil health, pest management as well as organic and protected vegetable cultivation
- Wide-ranging coverage of key vegetable crops, such as carrot, lettuce and cabbage

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

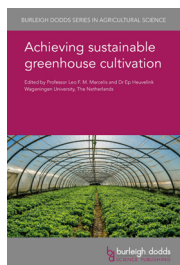
eBook ISBN: 978-1-78676-239-9

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, Wageningen University, The Netherlands

- Reviews advantages and disadvantages of different protected cultivation systems, from greenhouses to aquaponic and vertical farming systems
- Detailed assessment of current research on optimising the two main variables in protected cultivation: the aerial environment and root development
- Particular focus on systems control to optimise product quality and environmental impact

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

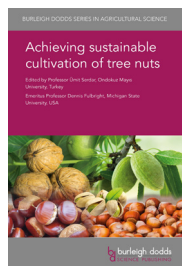
eBook ISBN: 978-1-78676-283-2

Pages: 538

Pub. Date: September 2019

Price: £170/\$220/€205

Series No: 63



Achieving sustainable cultivation of tree nuts

Editors: Professor Ümit Serdar, Ondokuz Mayıs University, Turkey and Emeritus Professor Dennis Fulbright, Michigan State University, USA

- Reviews current research on the nutraceutical properties as well as allergen and other safety issues relating to tree nuts
- Assesses advances in breeding, cultivation, integrated disease and pest management to improve yields and sustainability
- Summarises key research on the main tree nuts, from walnuts and almonds to hazelnuts, chestnuts and pistachios

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

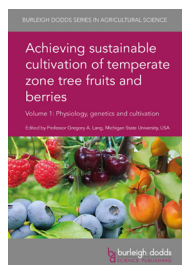
eBook ISBN: 978-1-78676-227-6

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, Michigan State University, USA

- Reviews latest research in tree fruit physiology
- Discusses latest developments in genetics and their implications for improved breeding techniques
- Comprehensive coverage of key stages in cultivation from nursery plants to water, nutrient and pest management

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

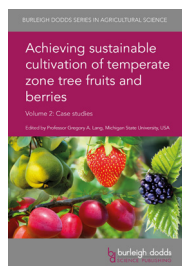
eBook ISBN: 978-1-78676-211-5

Pages: 520

Pub. Date: June 2019

Price: £140/\$180/€170

Series No: 53



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

Editor: Professor Gregory A. Lang, Michigan State University, USA

- Brings together some of the world's leading experts on the breeding and cultivation of particular fruits
- Comprehensive coverage of key stone, pome and berry fruits, such as peach, cherries, pears and apples
- Reviews key advances across the value chain for particular crops that collectively optimise sustainable production

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

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

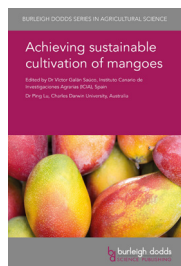
Pages: 470

Pub. Date: June 2019

Price: £140/\$180/€170

Series No: 54

HORTICULTURE



Achieving sustainable cultivation of mangoes

Editors: Dr Victor Galán Saúco, Instituto Canario de Investigaciones Agrarias (ICIA), Spain and Dr Ping Lu, Charles Darwin University, Australia

- **Comprehensive review of each step in the value chain for mango cultivation, from breeding new varieties to post-harvest storage**
- **Detailed coverage of advances in mango genetics and understanding genetic diversity**
- **Strong focus on understanding and preventing post-harvest losses in mangoes, including developments in monitoring techniques and storage facilities**

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

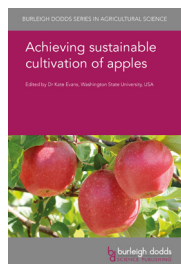
eBook ISBN: 978-1-78676-135-4

Pages: 570

Pub. Date: February 2018

Price: £180/\$235/€215

Series No: 34



Achieving sustainable cultivation of apples

Editor: Dr Kate Evans, Washington State University, USA

- **Detailed coverage of the latest research on plant physiology, including flowering and pollination in trees, apple fruit development and ripening**
- **Reviews current best practice in tree training, pruning and thinning operations, including the use of growth regulators and new areas such as mechanisation and automation**
- **Discusses the range of fungal and viral diseases affecting apples**

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

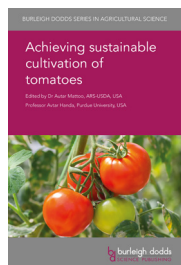
eBook ISBN: 978-1-78676-035-7

Pages: 616

Pub. Date: June 2017

Price: £190/\$245/€230

Series No: 18



Achieving sustainable cultivation of tomatoes

Editors: Dr Autar Mattoo, ARS-USDA, USA and Professor Avtar Handa, Purdue University, USA

- **Discusses developments in good agricultural practice from crop growth models to improved water and nutrition management**
- **Reviews advances in understanding plant physiology and genetic diversity as well as their contribution to improvements in breeding**
- **Summarises recent research on diseases and pests as well as their control through developing disease-resistant varieties or integrated weed management**

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

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

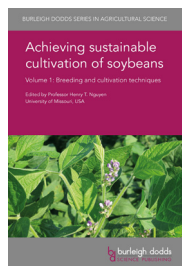
Pages: 564

Pub. Date: March 2017

Price: £180/\$235/€215

Series No: 07

OIL BEARING CROPS



Achieving sustainable cultivation of soybeans - Volume 1 Breeding and cultivation techniques

Editor: Professor Henry T. Nguyen, University of Missouri, USA

- Reviews latest research on crop physiology and genetic diversity
- Detailed coverage of key advances in breeding and their application to produce more resilient drought, salt and cold-tolerant varieties of soybean
- Summarises good agricultural practices to optimise crop cultivation and make it more sustainable

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

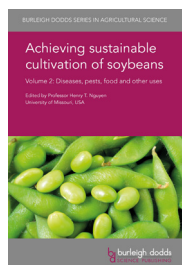
eBook ISBN: 978-1-78676-115-6

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, University of Missouri, USA

- Detailed coverage of oomycete, fungal, viral and bacterial diseases affecting soybeans
- Reviews developments in disease and pest-resistant varieties as well as integrated pest and weed management
- Summarises research on developing food and non-food uses, from improving nutritional properties to uses in animal feed and biodiesel

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

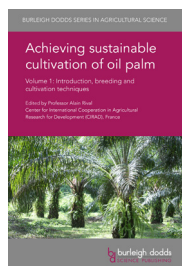
eBook ISBN: 978-1-78676-119-4

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, Center for International Cooperation in Agricultural Research for Development (CIRAD), France

- Identifies key production trends and challenges in oil palm production
- Reviews latest developments in conventional and marker-assisted breeding as well as transgenic approaches
- Assesses ways of assessing and optimising yields through techniques such as better nutrient and soil management

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

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

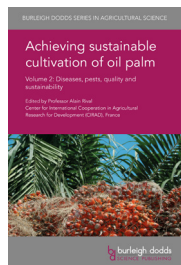
Pages: 306

Pub. Date: February 2018

Price: £140/\$180/€170

Series No: 27

OIL BEARING CROPS



Achieving sustainable cultivation of oil palm - Volume 2

Diseases, pests, quality and sustainability

Editor: Professor Alain Rival, Center for International Cooperation in Agricultural Research for Development (CIRAD), France

- **Comprehensive review of pests and diseases affecting oil palm and methods for their management**
- **Reviews controversies about palm oil and health**
- **Detailed coverage of key issues relating to the environmental impact of oil palm cultivation**

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

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

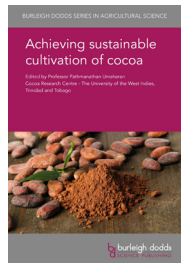
Pages: 462

Pub. Date: March 2018

Price: £160/\$210/€190

Series No: 28

BEVERAGE & SUGAR CROPS



Achieving sustainable cultivation of cocoa

Editor: Professor Pathmanathan Umaharan, Cocoa Research Centre - The University of the West Indies, Trinidad and Tobago

- **Strong focus on conserving and exploiting genetic resources for breeding improved varieties**
- **Detailed review of specific diseases, as well as insect pests and nematodes**
- **Covers key aspects of sustainability and measures to support smallholders**

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 trends

Editors: Dr V. S. Sharma, formerly UPASI Tea Research Institute, India and Dr M. T. Kumudini Gunasekare, formerly Tea Research Institute, Sri Lanka

- **Reviews the latest advances in understanding tea genetics and genetic diversity and how this has informed advances in conventional, marker-assisted and transgenic breeding techniques**
- **Summarises current best practice in cultivation techniques and the control of pests and diseases**
- **Focuses on assessing the environmental impact of tea cultivation**

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

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

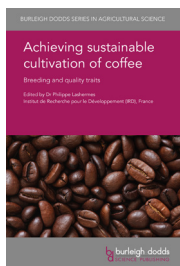
Pages: 558

Pub. Date: February 2018

Price: £180/\$235/€215

Series No: 41

Available as books and chapters, in print and digital formats



Achieving sustainable cultivation of coffee

Breeding and quality traits

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

- Covers recent research on coffee genetics, physiology and genetic diversity
- Reviews the latest developments in breeding new varieties
- Assesses advances in measuring and understanding the chemical composition and nutraceutical properties of coffee

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

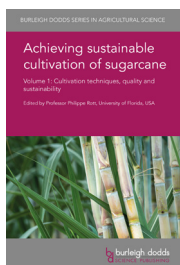
eBook ISBN: 978-1-78676-155-2

Pages: 410

Pub. Date: January 2018

Price: £170/\$220/€205

Series No: 39



Achieving sustainable cultivation of sugarcane - Volume 1

Cultivation techniques, quality and sustainability

Editor: Professor Philippe Rott, University of Florida, USA

- Provides a comprehensive review of best practice in sugarcane cultivation across the value chain from planting through to post-harvest operations
- Assesses alternative uses of sugarcane for bioenergy and other applications
- Explores the environmental impact of sugarcane cultivation, as well as the social and economic issues which arise as a result

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, University of Florida, USA

- Covers key advances in breeding, including conventional, marker-assisted and transgenic breeding techniques
- Summarises key advances in understanding bacterial, fungal and viral diseases of sugarcane
- Assesses best practice in integrated disease, pest and weed management

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

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

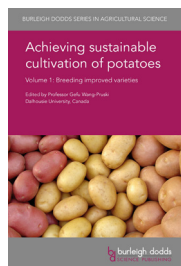
Pages: 468

Pub. Date: March 2018

Price: £170/\$220/€205

Series No: 38

ROOTS, TUBERS & PULSES



Achieving sustainable cultivation of potatoes - Volume 1 Breeding improved varieties

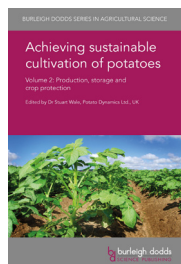
Editor: Professor Gefu Wang-Pruski, Dalhousie University, Canada

- Reviews latest research on understanding potato plant physiology and genetic variety
- Discusses major advances in conventional and hybrid breeding as well as their application in improved varieties
- Focuses on ways of supporting smallholders in key regions such as Africa through translating research into practice

Print ISBN: 978-1-78676-100-2
Pub. Date: August 2018

eBook ISBN: 978-1-78676-103-3
Price: £150/\$195/€180

Pages: 320
Series No: 26



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

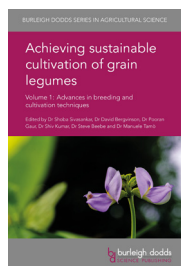
Editor: Dr Stuart Wale, Potato Dynamics Ltd., UK

- Comprehensive coverage of improvements in cultivation techniques across the potato value chain, from yield modelling to post-harvest storage
- Detailed review of the main fungal, bacterial and viral diseases affecting potatoes
- Reviews best practices for improving nutrient management in potato cultivation

Print ISBN: 978-1-78676-128-6
Pub. Date: September 2018

eBook ISBN: 978-1-78676-131-6
Price: £160/\$210/€190

Pages: 328
Series No: 33



Achieving sustainable cultivation of grain legumes - Volume 1 Advances in breeding and cultivation techniques

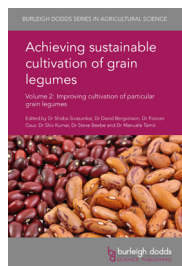
Editors: Dr Shoba Sivasankar, Dr David Bergvinson, Dr Pooran Gaur,
Dr Shiv Kumar, Dr Steve Beebe and Dr Manuele Tamò

- Reviews key developments in understanding crop physiology and genetic diversity and how they have informed advances in breeding new varieties
- Coverage of advances across the value chain for grain legume cultivation, from variety selection to post-harvest storage
- Discusses the latest trends in disease, insect pest and weed management

Print ISBN: 978-1-78676-136-1
Pub. Date: March 2018

eBook ISBN: 978-1-78676-139-2
Price: £160/\$210/€190

Pages: 432
Series No: 35



Achieving sustainable cultivation of grain legumes - Volume 2

Improving cultivation of particular grain legumes

Editors: Dr Shoba Sivasankar, Dr David Bergvinson, Dr Pooran Gaur, Dr Shiv Kumar, Dr Steve Beebe and Dr Manuele Tamò

- Detailed coverage of particular grain legumes, such as lentils, soybeans, groundnuts, cowpea and faba bean
- Chapters on each key aspect of grain legume cultivation: improved varieties and advances in cultivation techniques
- International range of authors with specific expertise in each grain legume

Print ISBN: 978-1-78676-140-8

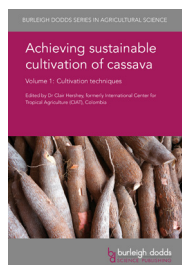
eBook ISBN: 978-1-78676-143-9

Pages: 398

Pub. Date: January 2018

Price: £160/\$210/€190

Series No: 36



Achieving sustainable cultivation of cassava - Volume 1

Cultivation techniques

Editor: Dr Clair Hershey, formerly International Center for Tropical Agriculture (CIAT), Colombia

- Discusses the growing importance of cassava as a global crop
- Reviews trends and challenges in cassava cultivation in Asia, Africa and Latin America
- Summarises current best practice in cassava agronomy, including seed systems, soil and nutrient management, crop rotations and intercropping

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

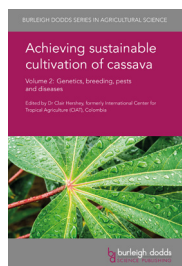
eBook ISBN: 978-1-78676-003-6

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, formerly International Center for Tropical Agriculture (CIAT), Colombia

- Assesses developments in genetic resources, genomic information and their application in marker-assisted breeding of cassava
- Reviews advances in breeding new varieties with enhanced properties such as higher yield and enhanced nutritional value
- Discusses advances in understanding cassava pests and diseases and integrated pest management techniques

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

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

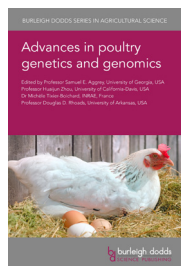
Pages: 322

Pub. Date: August 2017

Price: £140/\$180/€170

Series No: 21

POULTRY

**Advances in poultry genetics and genomics**

Editors: Professor Samuel E. Aggrey, University of Georgia, USA, Professor Huaijun Zhou, University of California-Davis, USA, Dr Michèle Tixier-Boichard, INRAE, France and Professor Douglas D. Rhoads, University of Arkansas, USA

- **Particular focus on improving functional traits needed for more resilient poultry breeds**
- **Comprehensive coverage of key advances in genomic selection and their practical application in breeding improved breeds of layers and broilers**
- **Looks forward to emerging trends such as the use of epigenetics and genome editing**

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

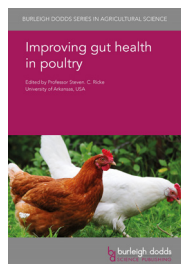
eBook ISBN: 978-1-78676-327-3

Pages: 580

Pub. Date: July 2020

Price: £190/\$245/€230

Series No: 79

**Improving gut health in poultry**

Editor: Professor Steven C. Ricke, University of Arkansas, USA

- **Particular focus on development of the chicken gut microbiome over the lifetime of the bird**
- **Reviews interactions between pathogens and the gut and the role of antibiotics in this process**
- **Comprehensive review of research on efficacy of poultry feed additives: probiotics, prebiotics, synbiotics, antimicrobials, essential oils and other botanicals, cereal grains**

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

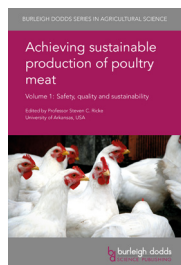
eBook ISBN: 978-1-78676-307-5

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, University of Arkansas, USA

- **Reviews latest research on zoonoses affecting poultry meat such as Salmonella and Campylobacter as well as methods for their control on the poultry farm and in the slaughterhouse**
- **Summarises advances in understanding and optimising poultry quality traits such as flavour, colour, tenderness, shelf life and nutritional quality**
- **Discusses developments in measuring and reducing the environmental impact of poultry production**

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, University of Georgia, USA

- Reviews advances in poultry genetics and their application in marker-assisted breeding
- Summarises recent research on poultry digestion and nutritional requirements
- Discusses current studies on optimising the role of dietary components such as enzymes, minerals and probiotics

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

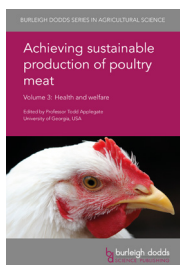
eBook ISBN: 978-1-78676-071-5

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, University of Georgia, USA

- Reviews latest research on bacterial and viral diseases affecting poultry as well as other threats such as parasites
- Discusses current research on disease management such as competitive exclusion treatments and other methods to boost immune function
- Summarises advances in understanding poultry behaviour and improving flock welfare

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

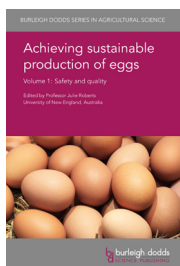
eBook ISBN: 978-1-78676-075-3

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, University of New England, Australia

- Reviews latest research on composition and properties of egg shell, white and yolk
- Summarises recent studies on pathogens affecting eggs and methods for their control such as washing and packaging
- Discusses current findings on factors affecting quality attributes such as appearance, shelf-life and nutritional value

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

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

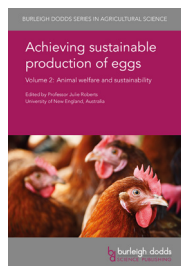
Pages: 430

Pub. Date: March 2017

Price: £170/\$220/€205

Series No: 16

POULTRY

**Achieving sustainable production of eggs - Volume 2****Animal welfare and sustainability**

Editor: Professor Julie Roberts, University of New England, Australia

- Discusses latest research on welfare issues for laying hens, including the welfare trade-offs involved with different housing systems, the behavioural requirements of laying hens, the issue of injurious pecking and skeletal health concerns
- Summarises advances in optimising hen nutrition and health
- Assesses developments in reducing the environmental impact of egg production

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

DAIRY

**Improving rumen function**

Editors: Dr C. S. McSweeney, CSIRO, Australia and Professor R. I. Mackie, University of Illinois, USA

- Reviews advances in understanding the role of different types of rumen microbiota
- Covers both the way the rumen processes fibre and protein and factors affecting outputs such as energy, lipids and methane emissions
- Comprehensive review of the range of nutritional strategies to optimise rumen function

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

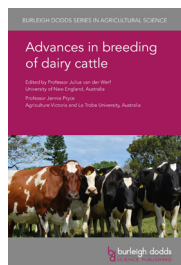
eBook ISBN: 978-1-78676-335-8

Pages: 862

Pub. Date: June 2020

Price: £190/\$245/€230

Series No: 83

**Advances in breeding of dairy cattle**

Editors: Professor Julius van der Werf, University of New England, Australia and Professor Jennie Pryce, Agriculture Victoria and La Trobe University, Australia

- Key focus on the challenges in breeding and lack of genetic diversity in modern dairy cattle
- Explores ways of improving non-production traits in cattle for more sustainable production
- Detailed review of key developments in reproductive technologies and breeding programmes to further advance dairy cattle breeding

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, Director General of the International Dairy Federation (IDF), Belgium

- Summarises latest research on the composition of proteins and components in milk
- Reviews advances in understanding factors affecting milk quality
- Discusses current research on genetic factors affecting dairy cattle growth and health as well as ways to optimise breeding to improve the productivity of dairy cows

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

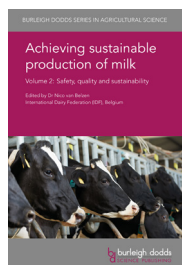
eBook ISBN: 978-1-78676-047-0

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, Director General of the International Dairy Federation (IDF), Belgium

- Summarises current research on pathogenic risks affecting milk and ways they can be controlled on the farm
- Reviews ways of reducing the environmental impact of dairy farming
- Assesses the wider role of dairy farming and how it can be improved in the developing world

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

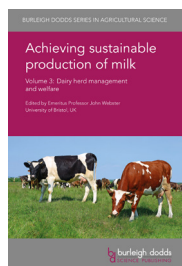
eBook ISBN: 978-1-78676-051-7

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, University of Bristol, UK

- Reviews advances in understanding and improving the welfare of dairy cattle
- Summarises current research on rumen biology, digestion and ways of optimising nutrition of dairy cattle from grazing to feed and feed supplements
- Discusses latest developments in maintaining the health of dairy cattle, including the genetics of disease resistance and dairy herd health management

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

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

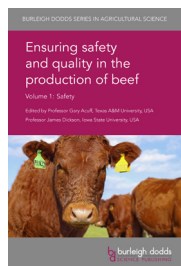
Pages: 606

Pub. Date: August 2017

Price: £190/\$245/€230

Series No: 10

BEEF



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

Editors: Professor Gary Acuff, Texas A&M University, USA and Professor James Dickson, Iowa State University, USA

- **Reviews current research on the main pathogens affecting beef**
- **Summarises best practice in pathogen detection and safety management on the farm**
- **Discusses methods for ensuring safety in the food chain from slaughter to consumer handling of fresh beef**

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

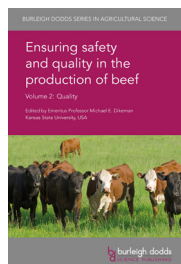
eBook ISBN: 978-1-78676-059-3

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 Dikeman, Kansas State University, USA

- **Reviews advances in understanding how breeding and growth affects the development of quality attributes such as fat content and tenderness**
- **Summarises recent research on how management of cattle and carcass handling affects sensory properties**
- **Discusses current research on measuring and optimising quality traits such as colour, flavour and tenderness**

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

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

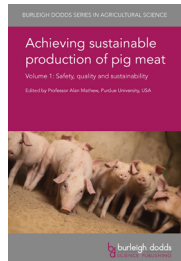
Pages: 442

Pub. Date: April 2017

Price: £170/\$220/€205

Series No: 12

PIGS



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

Editor: Professor Alan Mathew, Purdue University, USA

- **Covers the latest research on controlling pathogenic and non-pathogenic safety risks associated with pig meat**
- **Comprehensive review of the factors affecting the different aspects of pig meat quality**
- **Assesses ways of minimising the environmental impact of pig production such as reducing input use, emissions and waste**

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

Available as books and chapters, in print and digital formats

PIGS



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

Editor: Professor Julian Wiseman, University of Nottingham, UK

- Reviews latest research on pig genetics and its implications for improved breeding
- Detailed review of ways of meeting energy, protein, vitamin and mineral requirements of pigs
- Assesses the role of exogenous enzymes, growth promotors, prebiotics and probiotics in pig 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, University of Nottingham, UK

- Reviews latest research on diseases affecting pigs and their management
- Comprehensive review of pig welfare across the life-cycle, from gilts and sows to weaned piglets and finishing pigs
- Includes generic welfare issues such as the role of pasture-based systems, humane transport, lairage and slaughter techniques

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

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

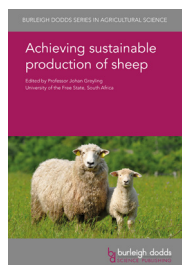
Pages: 326

Pub. Date: March 2018

Price: £140/\$180/€170

Series No: 25

SHEEP



Achieving sustainable production of sheep

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

- Discusses recent research which reviews key factors affecting carcass composition and meat quality
- Reviews advances in breeding such as the use of molecular markers
- Summarises key developments in understanding and improving the health and welfare of sheep, including best practices to meet the nutrient requirements of sheep through formulated diets

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

LIVESTOCK MANAGEMENT



Improving rumen function

Editors: Dr C. S. McSweeney, CSIRO, Australia and Professor R. I. Mackie, University of Illinois, USA

- Reviews advances in understanding the role of different types of rumen microbiota
- Covers both the way the rumen processes fibre and protein and factors affecting outputs such as energy, lipids and methane emissions
- Comprehensive review of the range of nutritional strategies to optimise rumen function

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, Aarhus University, Denmark and Dr Stephen Roderick, Duchy College, UK

- Reviews key challenges and solutions in improving the health and welfare of organic farm animals
- Addresses how organic livestock farming can build on smallholder systems such as pastoralism and agroforestry
- Includes case studies on improving organic farming of dairy and beef cattle, sheep and goats, pig and poultry

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



Improving grassland and pasture management in temperate agriculture

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

- Assesses latest research on how grasslands function and their role in biogeochemical cycles and biodiversity conservation
- Surveys best practice in sustainable grassland management to optimise livestock farming
- Considers wider aspects of sustainability such as ecosystem services and the use of grassland for bioenergy and biorefining

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

FORESTRY



Achieving sustainable management of tropical forests

Editors: Professor Jürgen Blaser, Bern University of Applied Sciences, Switzerland and Mr Patrick D. Hardcastle, Forestry Development Specialist, UK

- Explores the broader economic, political and environmental context in which management of tropical forests needs to operate
- Particular focus on management structures and techniques to achieve sustainable forest management on the ground
- Includes case studies of practical experience of managing tropical forests in South America, West Africa and Southeast Asia

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

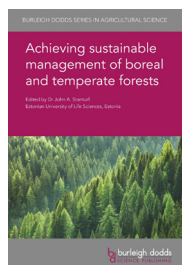
eBook ISBN: 978-1-78676-251-1

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, Estonian University of Life Sciences, Estonia

- Focuses on advances in understanding forest ecophysiology which underpin good management
- Explores the key challenges in ensuring forest management is consistent with forest ecosystem services
- Highlights ways of diversifying forest products, including novel uses of timber, biomass, non-timber products and recreational services

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

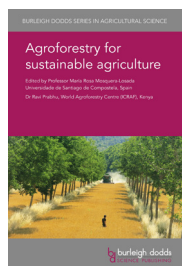
eBook ISBN: 978-1-78676-295-5

Pages: 872

Pub. Date: November 2019

Price: £190/\$245/€230

Series No: 71



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

- Comprehensive review of the effectiveness of particular agroforestry practices, from riparian forest buffers to alley cropping and silvopasture
- Summarises current research on ecosystem services delivered by agroforestry, including promoting biodiversity and soil health
- Assesses research on best practice in tree planting and management as well as optimising agroforestry products, from timber and nuts to bioenergy

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

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

Pages: 542

Pub. Date: May 2019

Price: £180/\$235/€215

Series No: 55



The Burleigh Dodds Science (BDS) Database is the central hub for over 1600 chapters on key research, topics and themes across agricultural science, covering crops, livestock and forestry.

- Provides unique access to reviews of key research and trends from 4000+ internationally recognised experts
- Continuously updated with new content to further achieving sustainable agriculture
- Utilise this wealth of knowledge as a tool to improve product development or inform best practice on the farm
- Empowers users to contribute to achieving a more sustainable agriculture

How does it work?

We synthesise and curate key research to empower you to make agriculture more sustainable.

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As providers of information to a wide-ranging group of stakeholders across the agricultural sector, one of the main challenges many of our customers continually encounter is information overload.

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