

BURLEIGH DODDS SERIES IN AGRICULTURAL SCIENCE

Supporting sustainable agriculture through trusted knowledge

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IN AGRICULTURAL SCIENCE

LIVESTOCK CATALOGUE



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SCIENCE PUBLISHING

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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



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Managing Director



Francis Dodds
Editorial Director



Amanda Renwick
Content Delivery
Specialist



Katherine Lister
Marketing Executive

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: November 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, Royal GD and University of Utrecht, The Netherlands

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

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

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

Pages: 360

Pub. Date: August 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.Nutritional strategies to boost immune response in poultry; 6.Developments in vaccines to protect poultry against disease; **Part 3 Optimising health at differing stages in poultry production;** 7.Optimizing chick health in poultry hatchery/incubation facilities; 8.Optimizing the health of poultry broilers; 9.Optimizing the health of poultry layers; 10.Optimizing the health of poultry breeder birds

POULTRY



Understanding the behaviour and improving the welfare of chickens

Editor: Professor Christine Nicol, Royal Veterinary College - University of London, UK

This volume summarises the wealth of recent research completed on understanding chicken behaviour and discusses how best to use this rich body of knowledge to optimise welfare management of broilers and layers.

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



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

This collection reviews recent research on the genetics of key production and functional traits in poultry breeding and summarises key advances in genomic selection techniques.

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

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

Pages: 580

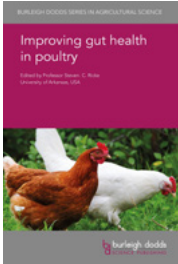
Pub. Date: July 2020

Price: £190/\$245/€230

Series No: 79

CHAPTER TITLES

Part 1 Poultry domestication, genetics and physiology; 1.The origin and domestication of poultry species; 2.Molecular identification of major morphological mutations in poultry; 3.The genetic basis for pigmentation phenotypes in poultry; 4.Physiological challenges in poultry breeding; **Part 2 Genetics and genomics of complex traits;** 5.Genetics and genomics of meat quality traits in poultry species; 6.Genetics and genomics of egg production traits in poultry species; 7.Genetics and genomics of feed utilization efficiency in poultry species; 8.Genetics and genomics of behavioral and welfare traits in poultry species; 9.Genetics and genomics of immunity and disease traits in poultry species; 10.Genetics and genomics of skeletal traits; **Part 3 Use of omics in poultry breeding;** 11.Theory of genome-wide association for QTL detection; 12.Genomic selection using Bayesian methods; 13.Genomic selection in poultry breeding using single-step genomic best linear unbiased prediction; 14.Application of genomic selection (GS) in breeding commercial meat-type chickens; 15.Application of genomic selection in commercial egg-type populations; 16.Landscape genomics: application in poultry breeding; **Part 4 Emerging issues and future challenges in poultry breeding;** 17.Breeding for small-scale poultry farming; 18.Poultry breeding for sustainability and plasticity in functional traits: reality or fiction in the midst of conflicting interests; 19.The use of nutrigenomics in poultry breeding for sustainable production; 20.The use of epigenetics in poultry breeding; 21.The use of genome editing in poultry breeding



Improving gut health in poultry

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

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

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

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

Pages: 546

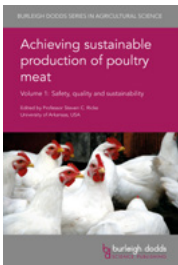
Pub. Date: November 2019

Price: £180/\$235/€215

Series No: 73

CHAPTER TITLES

Part 1 Understanding the gastrointestinal tract; 1.Commercial poultry production and gut function: a historical perspective; 2.Advances in sequence technologies for generating poultry gut microbiome data; 3.Omics technologies for connecting host responses with poultry gut function; 4.Understanding gut microbiota in poultry; 5.In ovo development of the chicken gut microbiome and its impact on later gut function; 6.Understanding gut function in poultry: immunometabolism at the gut level; 7.Understanding gut function in poultry: the role of commensals, metabolites, inflammation, and dysbiosis in intestinal immune function and dysfunction; **Part 2 Factors that impact the gastrointestinal tract and different types of birds;** 8.Genetics and other factors affecting intestinal microbiota and function in poultry; 9.Antibiotics and gut function: historical and current perspectives; 10.Gastrointestinal diseases of poultry: causes and nutritional strategies for prevention and control; 11.The interaction between gut microbiota and pathogens in poultry; 12.Microbial ecology and function of the gastrointestinal tract in layer hens... *(To view the full table of contents for this title, please visit our website.)*



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

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

This collection starts by reviewing safety, including detection, prevention and control of zoonoses in poultry flocks. It also discusses key aspects of quality such as meat flavour.

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

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

Pages: 502

Pub. Date: January 2017

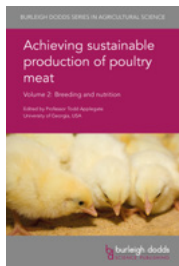
Price: £180/\$235/€215

Series No: 13

CHAPTER TITLES

Part 1 Poultry meat safety; 1.Zoonoses affecting poultry: the case of Campylobacter; 2.Zoonoses affecting poultry: the case of Salmonella; 3.Safety management on the poultry farm; 4.The emergence of antibiotic resistance on poultry farms; 5.Alternatives to antibiotics in preventing zoonoses and other pathogens in poultry: Prebiotics and related compounds; 6.Safety management and pathogen monitoring in poultry slaughterhouse operations: the case of the United States; 7.Inspection techniques for poultry slaughterhouse operations: the case of the European Union; 8.Ensuring safety in chilling and freezing of poultry meat; 9.Case studies in food safety control of fresh poultry meat: effective control of Salmonella in Sweden; 10.Food safety control on poultry farms: effective control of Campylobacter; **Part 2 Poultry meat quality;** 11.Poultry meat quality: an overview; 12.Enhancing the nutritional quality of poultry meat; 13.Enhancing the flavour of poultry meat; 14.The colour of poultry meat: understanding, measuring and maintaining product quality; 15.Enhancing texture and tenderness in poultry meat; 16.Preventing spoilage of poultry meat; **Part 3 Sustainability;** 17.Life cycle assessment (LCA) of intensive poultry production systems; 18.Minimizing the environmental impact of poultry production through improved feed formulation; 19.Energy and water use in poultry processing; 20.Waste management and emissions in poultry processing; 21.Organic systems for raising poultry; 22.Helping smallholders to improve poultry production

POULTRY



Achieving sustainable production of poultry meat - Volume 2 Breeding and nutrition

Editor: Professor Todd Applegate, University of Georgia, USA

This book discusses key developments such as marker-assisted breeding and improvements in poultry feed such as the use of enzymes to optimise nutritional efficiency.

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

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

Pages: 342

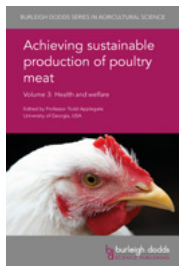
Pub. Date: July 2017

Price: £150/\$195/€180

Series No: 14

CHAPTER TITLES

Part 1 Genetics and breeding; 1. Genes associated with functional traits in poultry: implications for sustainable genetic improvement; 2. A balanced approach to commercial poultry breeding; 3. Marker-assisted selection in poultry; **Part 2 Animal nutrition;** 4. The cellular basis of feed efficiency in poultry muscle: mitochondria and nucleic acid metabolism; 5. Understanding feed and water intake in poultry; 6. Advances and future directions in poultry feeding: an overview; 7. Advances in understanding and improving the role of amino acids in poultry nutrition; 8. Advances in understanding and improving the role of enzymes in poultry nutrition; 9. Advances in understanding the role of phytate in phosphorus and calcium nutrition of poultry; 10. Probiotics, prebiotics and other feed additives to improve gut function and immunity in poultry; 11. Using models to optimise poultry nutrition; 12. Developments in feed technology to improve poultry nutrition; 13. Alternative sources of protein for poultry nutrition; 14. Maintaining the safety of poultry feed; 15. Thermal adaptation and tolerance of poultry



Achieving sustainable production of poultry meat - Volume 3 Health and welfare

Editor: Professor Todd Applegate, University of Georgia, USA

This collection reviews our understanding of bacterial, viral and other diseases affecting poultry and their effective management. It also discusses ways of managing poultry flocks to optimise their welfare from hatching to slaughter.

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

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

Pages: 350

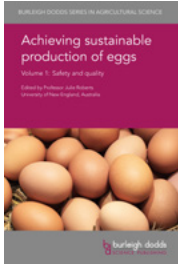
Pub. Date: August 2017

Price: £160/\$210/€190

Series No: 15

CHAPTER TITLES

Part 1 Animal health; 1. Monitoring trends in diseases of poultry; 2. Gut health and susceptibility to enteric bacterial diseases in poultry; 3. Viruses affecting poultry; 4. Parasites affecting poultry; 5. Disease management of poultry flocks; 6. Understanding and boosting poultry immune systems; 7. Competitive exclusion (CE) treatment to control pathogens in poultry; 8. Leg disorders in poultry: bacterial chondronecrosis with osteomyelitis (BCO); **Part 2 Animal welfare;** 9. Understanding poultry behaviour; 10. Ensuring the welfare of broilers: an overview; 11. Broiler breeding flocks: management and animal welfare; 12. The effect on incubation temperature on embryonic development in poultry; 13. The contribution of environmental enrichment to sustainable poultry production; 14. Hot weather management of poultry; 15. Transportation and the welfare of poultry; 16. Developments in humane slaughtering techniques for poultry



Achieving sustainable production of eggs - Volume 1

Safety and quality

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

This collection begins by looking at egg composition and chemistry which provides a foundation for discussing pathogenic contamination of eggs. The book concludes by assessing factors affecting egg appearance, shelf-life, nutritional value and other quality traits.

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

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

Pages: 430

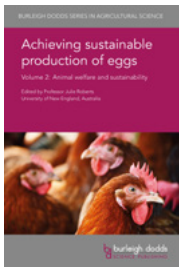
Pub. Date: March 2017

Price: £170/\$220/€205

Series No: 16

CHAPTER TITLES

Part 1 Egg composition and chemistry; 1.Composition and properties of eggshell; 2.Composition and properties of egg white; 3.The nutritional and physiological functions of egg yolk components; **Part 2 Safety;** 4.Pathogens affecting table eggs; 5.Mechanisms for transmissions of pathogens into eggs; 6.Sampling and detection of Salmonella in eggs; 7.Understanding the natural antibacterial defences of egg white and their regulation; 8.The effects of laying hen housing systems on egg safety and quality; 9.Egg washing to ensure product safety; 10. New developments in packaging of eggs to improve safety and quality; Pietro Rocculi, University of Bologna, Italy; **Part 3 Sensory and nutritional quality;** 11.Egg quality: consumer preferences and measurement techniques; 12.Determinants of egg appearance and colour; 13. Understanding and improving the shelf-life of eggs; 14.The nutritional role of eggs; 15.Nutraceutical benefits of eggs; 16.Enhancing the nutritional profile of eggs; 17.Molecular breeding techniques to improve egg quality



Achieving sustainable production of eggs - Volume 2

Animal welfare and sustainability

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

This book reviews nutrition and other aspects of husbandry affecting laying hens as well as the environmental impact of egg production and how it can be made more sustainable.

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

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

Pages: 234

Pub. Date: February 2017

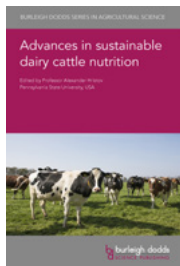
Price: £130/\$170/€155

Series No: 17

CHAPTER TITLES

Part 1 Animal health and welfare; 1.Laying hen nutrition: optimizing energy intake, egg size and weight; 2.Laying hen nutrition: optimizing hen performance and health, bone and eggshell quality; 3.Welfare of laying hens: an overview; 4.Welfare standards for laying hens; 5.Welfare issues affecting free-range laying hens; 6.Beak trimming of laying hens: welfare costs and benefits; 7.Maintaining the health of laying hens: a practical approach; 8.Managing laying hen flocks with intact beaks; **Part 2 Sustainability;** 9.Waste management in egg production; 10.Assessing the sustainability of organic egg production

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

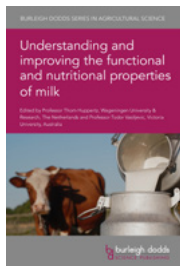
Pub. Date: February 2023

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 role of the dairy matrix in the contribution of milk and dairy products to the human diet; 2.Digestion of milk protein and milk fat; 3.Milk composition and properties: interspecies comparison; **Part 2 Proteins and lipids;** 4.Caseins and casein micelles; 5.Advances in dairy protein science: whey proteins; 6.Understanding nutritional and bioactive properties of whey; 7.Functional ingredients based on bioactive peptides from milk proteins; 8.Advances in dairy lipid science: physicochemical aspects; 9.Advances in understanding the biosynthetic pathways of milk lipids, their health benefits and bioactive properties; **Part 3 Carbohydrates and other components;** 10.Lactose in milk: properties, nutritional characteristics and role in dairy products; 11.Nutritional properties and biological activity of lactose and other dairy carbohydrates; 12.Advances in understanding of 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; 16.Dietary factors affecting the composition of cow's milk; 17.Sensory properties of milk: understanding and analysis; 18.Microbial quality and spoilage of raw cow's milk; 19.Understanding the contribution of milk constituents to the texture of dairy products: liquid milk products; 20.Understanding the contribution of milk constituents to the texture of dairy products: fermented products; 21.Understanding the contribution of milk constituents to the texture of dairy products: cheese



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

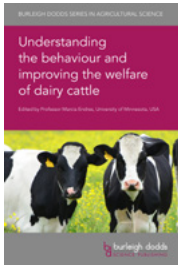
Pub. Date: July 2021

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

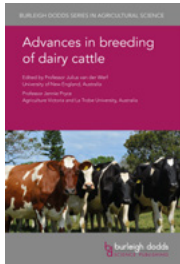
Price: £150/\$195/€180

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

DAIRY



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

Dairy cattle breeding faces challenges such as reduced genetic diversity and the improvement of production over functional traits. This collection reviews the latest research on genetics, genetic diversity and advanced methods of genetic evaluation and selection.

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

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

Pages: 658

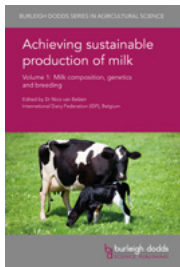
Pub. Date: December 2019

Price: £180/\$235/€215

Series No: 72

CHAPTER TITLES

Part 1 Managing genetic diversity; 1.Genetic and phenotypic improvements in temperate dairy systems: an overview; 2.Assessing inbreeding and genetic diversity in the Holstein breed using pedigree and genomic approaches; 3.Genetic diversity in dairy cattle: variation within and between breeds; 4.The use of genomic information to improve selection response while controlling inbreeding in dairy cattle breeding programs; 5.Opportunities and challenges in crossbreeding dairy cattle in temperate regions; **Part 2 Breeding objectives and genetics of new traits;** 6.Recent developments in multi-trait selection in dairy cattle breeding; 7.Advances in dairy cattle breeding to improve fertility/reproductive efficiency; 8.Advances in dairy cattle breeding to incorporate feed conversion efficiency in national genetic evaluations; 9.Improving phenotypic prediction in dairy cattle breeding using the metagenome; 10.Advances in dairy cattle breeding to improve resistance to mastitis; 11.Advances in dairy cattle breeding to improve resistance to claw disorders/lameness; 12.The use of mid-infrared spectral data to predict traits for genetic selection in dairy cattle; 13.Advances in dairy cattle breeding to improve heat tolerance; 14.Advances in dairy cattle breeding to improve longevity...*(To view the full table of contents for this title, please visit our website.)*



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

This book reviews current research on key components and quality traits of milk as well as ways of measuring milk quality. It then discusses genetic factors affecting these traits and how they can be used to improve breeding of dairy cows.

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

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

Pages: 360

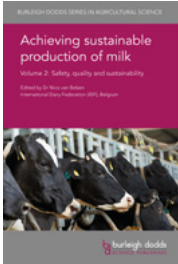
Pub. Date: March 2017

Price: £150/\$195/€180

Series No: 08

CHAPTER TITLES

Part 1 The composition and quality of milk; 1.The proteins of milk; 2.Bioactive components in cow's milk; 3.Ingredients from milk for use in food and non-food products: from commodity to value-added ingredients; 4.Understanding and preventing spoilage of cow's milk; 5.Sensory evaluation of cow's milk; **Part 2 Genetics, breeding and other factors affecting quality and sustainability;** 6.Using genetic selection in the breeding of dairy cattle; 7.Genetic factors affecting fertility, health, growth and longevity in dairy cattle; 8.Breeding and management strategies to improve reproductive efficiency in dairy cattle; 9.Nutritional strategies to improve nitrogen efficiency and milk protein synthesis in dairy cows



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

This book reviews current research on understanding and managing pathogens in dairy farms. It also discusses more recent concerns about the environmental impact of dairy farming and ways it can be made more sustainable.

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

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

Pages: 432

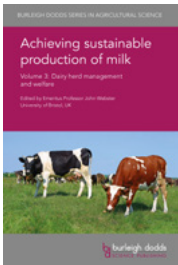
Pub. Date: June 2017

Price: £170/\$220/€205

Series No: 09

CHAPTER TITLES

Part 1 Ensuring the safety and quality of milk on the farm; 1. Pathogens affecting raw milk from cows; 2. Detecting pathogens in milk on dairy farms: key issues for developing countries; 3. Mastitis, milk quality and yield; 4. Chemical contaminants in milk; 5. Detecting and preventing contamination of dairy cattle feed; 6. Minimizing the development of antimicrobial resistance on dairy farms: appropriate use of antibiotics for the treatment of mastitis; 7. Managing sustainable food safety on dairy farms; **Part 2 Sustainability;** 8. 'Towards' sustainability of dairy farming: an overview; 9. Setting environmental targets for dairy farming; 10. Grassland management to minimize the environmental impact of dairy farming; 11. Improved energy and water management to minimize the environmental impact of dairy farming; 12. Ensuring biodiversity in dairy farming; 13. Organic dairy farming and sustainability; 14. Trends in dairy farming and milk production: the cases of the United Kingdom and New Zealand; 15. Assessing the overall impact of dairy sector; **Part 3 Improving quality, safety and sustainability in developing countries;** 16. Improving smallholder dairy farming in tropical Asia; 17. Improving smallholder dairy farming in Africa; 18. Organic dairy farming in developing countries



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

Editor: Emeritus Professor John Webster, University of Bristol, UK

This collection looks at the key issues affecting dairy herd welfare as well as ways of optimising dairy cattle nutrition. It also reviews ways of detecting, preventing and managing diseases affecting dairy cattle.

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

CHAPTER TITLES

Part 1 Welfare of dairy cattle; 1. Understanding the behaviour of dairy cattle; 2. Key issues in the welfare of dairy cattle; 3. Housing and the welfare of dairy cattle; 4. Genetic selection for dairy cow welfare and resilience to climate change; 5. Ensuring the welfare of culled dairy cows during transport and slaughter; 6. Ensuring the health and welfare of dairy calves and heifers; **Part 2 Nutrition of dairy cattle;** 7. The rumen microbiota and its role in dairy cow production and health; 8. Biochemical and physiological determinants of feed efficiency in dairy cattle; 9. Feed evaluation and formulation to maximise nutritional efficiency in dairy cattle; 10. Sustainable nutrition management of dairy cattle in intensive systems; 11. Nutrition management of grazing dairy cows in temperate environments; 12. The use and abuse of cereals, legumes and crop residues in rations for dairy cattle; 13. Feed supplements for dairy cattle; **Part 3 Health of dairy cattle;** 14. Disorder of digestion and metabolism in dairy cattle: the case of subacute rumen acidosis; 15. Management of dairy cows in transition and at calving; 16. Causes, prevention and management of infertility in dairy cows; 17. Aetiology, diagnosis and control of mastitis in dairy herds; 18. Preventing and managing lameness in dairy cows; 19. Control of infectious diseases in dairy cattle; 20. Prevention and control of parasitic helminths in dairy cattle: key issues and challenges; 21. Genetic variation in immunity and disease resistance in dairy cows and other livestock; 22. Responsible and sustainable use of medicines in dairy herd health; 23. Dairy herd health management: an overview

PIGS



Optimising pig herd health and production

NEW

Editors: Professor Dominiek Maes, Ghent University, Belgium and Professor Joaquim Segalés, Universitat Autònoma de Barcelona, Spain

This collection summarises the wealth of research on optimising pig health to prevent the occurrence and spread of major diseases known to the pig industry, such as African Swine Fever (ASF) and Porcine Reproductive and Respiratory Syndrome (PRRS).

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

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

Pages: 400

Pub. Date: October 2022

Price: £150/\$195/€180

Series No: 118

CHAPTER TITLES

Part 1 Understanding and identifying disease; 1.Advances in understanding mechanisms of porcine viral disease transmission/epidemiology; 2.Advances in understanding mechanisms of porcine bacterial disease transmission/epidemiology; 3.Improving disease surveillance/monitoring systems in pig herds; 4.Advanced techniques to monitor pig health and identify disease; **Part 2 Understanding immunity and disease resistance;** 5.Advances in understanding the development of immune function in pigs; 6.Advances in understanding gut function and immunity in pigs; 7.Nutritional strategies to boost immune function in pigs; 8.Understanding mechanisms of resistance to respiratory disease in pigs; **Part 3 Disease prevention;** 9.On-farm strategies for preventing pig diseases: improving biosecurity; 10.Managing feed to optimise pig health; 11.Managing housing and stocking density to prevent disease in pig herds; 12.Advances in the development and use of vaccines for prevention of endemic diseases in pigs; 13.Advances in developing vaccines for emerging diseases in pigs; **Part 4 Optimising health through the life cycle;** 14.Optimising the health of gilts and pregnant sows; 15.Optimising the health of weaned piglets; 16.Optimising the health of finisher 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, 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: February 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



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

Editor: Professor Alan Mathew, Purdue University, USA

This volume addresses some of the key challenges facing pig farming such as the continuing threat from zoonoses, ways of maintaining and improving meat quality as well as making pig production more sustainable.

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

CHAPTER TITLES

Part 1 Safety; 1.Zoonoses affecting pigs; 2.Effective control of zoonoses in pig production; 3.Dealing with the challenge of antibiotic resistance in pig production; 4.Detecting veterinary drug residues in pork; **Part 2 Quality;** 5.Producing consistent quality meat from the modern pig; 6.Factors affecting pork flavour; 7.Factors affecting the colour and texture of pig meat; 8.Nutritional composition and the value of pig meat; **Part 3 Sustainability;** 9. Assessing the environmental impact of swine production; 10.Nutritional strategies to reduce emissions from waste in pig production; 11.Organic pig production systems, welfare and sustainability

PIGS



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

Editor: Professor Julian Wiseman, University of Nottingham, UK

Pig production faces many hurdles in meeting increasing global demand sustainably. This volume discusses advances in breeding to improve both productivity and quality. It also reviews key developments in improving animal nutrition.

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

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

Pages: 340

Pub. Date: October 2017

Price: £160/\$210/€190

Series No: 24

CHAPTER TITLES

Part 1 Genetics and breeding; 1.Advances and constraints in conventional breeding of pigs; 2.The use of molecular genetic information in genetic improvement programmes for pigs; 3.Factors affecting the reproductive efficiency of pigs; 4.Factors affecting the reproductive efficiency of boars; 5.Genetic factors affecting feed efficiency, feeding behaviour and related traits in pigs; **Part 2 Animal nutrition;** 6.Advances in understanding pig nutritional requirements and metabolism; 7.Meeting energy requirements in pig nutrition; 8.Meeting amino acid requirements in pig nutrition; 9.Recent advances in understanding the role of vitamins in pig nutrition; 10.Modelling nutrient requirements for pigs to optimise feed efficiency; 11.The use of exogenous enzymes to improve feed efficiency in pigs; 12.The use of growth promoters in pig nutrition; 13.Use of probiotics and prebiotics in pig nutrition in the post-weaning period; 14.Meeting individual nutrient requirements to improve nutrient efficiency and the sustainability of growing pig production systems



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

Editor: Professor Julian Wiseman, University of Nottingham, UK

Maintaining animal health and high standards of animal welfare are seen as key to sustainable livestock production. This volume reviews the effective management of diseases affecting pigs as well as ways of defining and promoting animal welfare in pig production.

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

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

Pages: 326

Pub. Date: March 2018

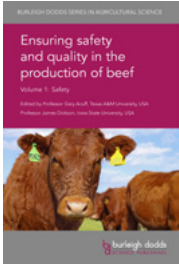
Price: £140/\$180/€170

Series No: 25

CHAPTER TITLES

Part 1 Animal health; 1.Diseases affecting pigs: an overview of common bacterial, viral, and parasitic pathogens of pigs; 2.Changing patterns of disease affecting pigs: Porcine Reproductive and Respiratory Syndrome (PRRS) and Porcine Epidemic Diarrhoea (PED); 3.The influence of gut microbiome on developing immune and metabolic systems in the young pig; 4.Disease identification and management on the pig farm; **Part 2 Welfare issues;** 5.Understanding pig behaviour; 6.Defining and ensuring animal welfare in pig production: an overview; 7.Pasture systems for pigs; 8.Welfare of gilts and pregnant sows; 9.Welfare of weaned piglets; 10.Welfare of pigs during finishing; 11.Transport and lairage of pigs; 12.Humane slaughter techniques for pigs

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

Volume 1 looks at key research trends in ensuring safe beef production, both on the farm and during slaughter. These include current research on pathogens in beef, risk assessment and detection as well as food safety management.

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

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

Pages: 252

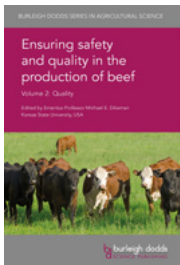
Pub. Date: June 2017

Price: £130/\$170/€155

Series No: 11

CHAPTER TITLES

Part 1 Ensuring safety on the farm; 1.Pathogens affecting beef; 2.Methods for detecting pathogens in the beef food chain: an overview; 3.Methods for detecting pathogens in the beef food chain: detecting particular pathogens; 4.Food safety management on farms producing beef; 5.Ensuring the safety of feed for beef cattle; 6.Detecting antibiotic residues in animal feed: the case of distiller's grains; **Part 2 Ensuring safety at slaughter;** 7.Beef carcass inspection systems; 8.Maintaining the safety and quality of beef carcass meat; 9.Optimizing the microbial shelf-life of fresh beef; 10.Ensuring beef safety through consumer education; 11.Traceability in the beef supply chain



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

Editor: Emeritus Professor Michael Dikeman, Kansas State University, USA

Volume 2 reviews developments related to quality, starting with the way breeding and growth affect meat quality. The book then discusses cattle nutrition and management before concluding with an assessment of factors determining individual quality traits such as colour and flavour.

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

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

Pages: 442

Pub. Date: April 2017

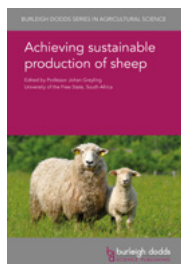
Price: £170/\$220/€205

Series No: 12

CHAPTER TITLES

Part 1 Breeding and growth; 1.Biological types of cattle: carcass and meat quality; 2.Traditional animal breeding of cattle to improve carcass composition and meat quality; 3.Muscle fibre types and beef quality; 4.Factors affecting fat content and distribution of fat in cattle and carcasses; **Part 2 Management of cattle;** 5.Beef cattle nutrition and its effects on beef quality; 6.Effects of metabolic modifiers on beef carcass composition and meat quality; 7.Understanding the effects of handling, transportation, lairage and slaughter on cattle welfare and beef quality; 8.The effects of carcass chilling and electrical stimulation on visual beef quality and palatability; **Part 3 Quality traits;** 9.Beef colour development and variation; 10.Beef carcass grading and classification; 11.Branded beef programmes; 12.Ageing, physical and chemical methods for improving tenderness and palatability of beef; 13.Factors affecting flavour development in beef; 14.Packaging systems for beef retailers and their effects on visual quality and palatability; 15.Measuring and assessing beef quality and sensory traits for retailers and consumers; 16.The role of beef in human nutrition and health; **Part 4 Emerging trends;** 17.The future of DNA technologies for improving beef quality: marbling, fatty acid composition and tenderness; 18.The sustainability and 'carbon footprints' of conventional and alternative beef production systems; 19.Controversies surrounding the impact of the fat content of beef on human health

SHEEP



Achieving sustainable production of sheep

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

Sheep have long been a feature of farming. This collection reviews the latest research on issues such as meat quality, genetics and breeding. It also discusses animal nutrition, health and welfare as well as ways of improving the sustainability of sheep production.

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

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

Pages: 474

Pub. Date: September 2017

Price: £180/\$235/€215

Series No: 22

CHAPTER TITLES

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

LIVESTOCK MANAGEMENT



Advances in precision livestock farming

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: 442

Pub. Date: June 2022

Price: £150/\$195/€180

Series No: 105

CHAPTER TITLES

Part 1 Data collection and analysis; 1.Developments in on-animal sensors for monitoring livestock; 2.Developments in thermal imaging techniques to assess livestock health; 3.Developments in acoustic techniques to assess livestock health; 4.Machine vision techniques to monitor behaviour and health in precision livestock farming; 5.Developments in activity and location technologies for monitoring cattle movement and behaviour; 6.Developments in data analysis for decision-making in precision livestock farming systems; **Part 2 Applications;** 7.Monitoring and control of livestock housing conditions using precision livestock farming techniques; 8.Developments in individual-animal feed efficiency monitoring 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 in extensive systems



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



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

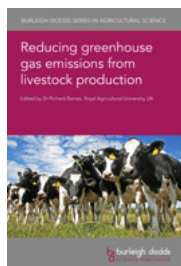
Price: £150/\$195/€180

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

LIVESTOCK MANAGEMENT



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



Improving rumen function

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

Part 1 summarises advances in analysing the rumen microbiome. Part 2 reviews recent research on different types of rumen microbiota. Part 3 discusses the way the rumen processes nutrients whilst Part 4 explores 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

CHAPTER TITLES

1.Colonization and establishment of the rumen microbiota – opportunities to influence productivity and methane emissions; **Part 1 Tools to understand the ruminal microbiome;** 2. A question of culture: bringing the gut microbiome to life in the -omics era; 3.Rumen metabolomics – a powerful tool for discovery and understanding of rumen functionality and health; 4.A conceptual approach to the mathematical modelling of microbial functionality in the rumen; **Part 2 The rumen microbiota;** 5.Genome sequencing and the rumen microbiome; 6.The Rumen Archaea; 7.Ruminal-ciliated protozoa; 8.The anaerobic rumen fungi; 9.Ruminal viruses and extrachromosomal genetic elements; 10.The rumen wall microbiota community; **Part 3 Nutrient processing in the rumen and host interactions;** 11.Ruminal fibre digestion; 12.Ruminal protein breakdown and ammonia assimilation; 13.Factors influencing the efficiency of rumen energy metabolism; 14.Understanding rumen lipid metabolism to optimize dairy products for enhanced human health and to monitor animal health; 15.Nutritional factors affecting greenhouse gas production from ruminants: implications for enteric and manure emissions; 16.Host-rumen microbiome interactions and influences on feed conversion efficiency (FCE), methane production and other productivity traits; 17.The rumen as a modulator of immune function in cattle; **Part 4 Nutritional strategies to optimise ruminal function;** 18.Role of the rumen microbiome in pasture-fed ruminant production systems...(To view the full table of contents for this title, please visit our website.)



Improving organic animal farming

Editors: Dr Mette Vaarst, Aarhus University, Denmark and Dr Stephen Roderick, Duchy College, UK

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

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

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

Pages: 406

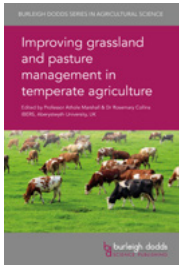
Pub. Date: March 2019

Price: £170/\$220/€205

Series No: 46

CHAPTER TITLES

1. Setting the scene: the continued drive to improve organic animal farming; **Part 1 Concepts in organic animal farming**; 2. The principles of organic livestock farming; 3. The effects of organic management on greenhouse gas emissions and energy efficiency in livestock production; 4. Rethinking and engaging with animal health in organic farming; 5. Enhancing naturalness and human care in organic animal farming; 6. Biosecurity and safety for humans and animals in organic animal farming; 7. Integrated crop–livestock systems with agroforestry to improve organic animal farming; 8. Smallholder integrated organic farming: how can it work in the tropics?; 9. Pastoralism and organic animal farming: are they complementary?; **Part 2 Farming of particular species**; 10. Organic dairy farming: key characteristics, opportunities, advantages and challenges; 11. Organic dairy farming: towards sustainability; 12. Organic beef farming: key characteristics, opportunities, advantages and challenges; 13. Organic sheep and goat farming: opportunities and challenges; 14. Organic pig farming: key characteristics, opportunities, advantages and challenges; 15. Organic poultry farming: opportunities and challenges; 16. The development of organic aquaculture; 17. Organic and natural beekeeping, and caring for insect pollinators; **Part 3 The future**; 18. Improving organic animal farming for the future



Improving grassland and pasture management in temperate agriculture

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

In many countries there has been a shift to intensive grassland livestock systems with higher environmental impact. This collection reviews current research into the more sustainable use of agricultural grassland.

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

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

Pages: 486

Pub. Date: July 2018

Price: £190/\$245/€230

Series No: 51

CHAPTER TITLES

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

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