

Achieving sustainable production of pig meat

Volume 1: Safety, quality and sustainability

Edited by Professor Alan Mathew, Purdue University, USA



bd burleigh dodds
SCIENCE PUBLISHING

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TVKF - Fertilizers & manures



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Updated 29/09/17

New title information

Achieving sustainable production of pig meat Volume 1

Safety, quality and sustainability

Edited by: Prof. Alan Mathew, Purdue University, USA

Endorsement:

"This new book addresses the most important topics in pig production today: food safety, meat quality and sustainability. Consumers have concerns in all these areas and the chapters in this book, written by acknowledged international experts, will provide solutions to problems and highlight new opportunities. It is destined to be a standard text." *Jeff Wood, Emeritus Professor, University of Bristol, UK*

Description:

Pig meat is the most widely-consumed meat in the world. Previous growth in production has relied, in part, on more intensive systems. In meeting rising demand, these systems face challenges such as the ongoing threat of zoonotic diseases, the need to improve feed efficiency in the face of rising costs, the need to reduce the environmental impact of pig production and increasing concerns about animal welfare.

This volume looks first at the main zoonoses affecting pigs and how they can be controlled. It then reviews the latest research on aspects of meat quality such as flavour, colour, texture and nutritional quality. Finally, it assesses ways of monitoring and reducing the environmental impact of pig production.

With its distinguished editor and international team of expert authors, this will be a standard reference for researchers in swine science, producers, government and other organisations involved in supporting pig production. It is accompanied by two companion volumes which focus on animal breeding, nutrition, health and welfare.

Key features:

- 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

Audience:

Academic researchers in swine science; pig producers; pig meat processors; government and non-governmental agencies supporting pig meat production

Editor details:

Dr Mathew is Professor and Head of Animal Sciences at Purdue University, USA. Professor Mathew was formerly Head of Animal Sciences at the University of Tennessee. He has published widely on pre-harvest food safety, specifically the effects of nutrition and animal management on the occurrence and antibiotic resistance of pathogens on the farm.

Table of contents:

Part 1 Safety

- 1.Zoonoses affecting pigs: *Peter R. Davies, University of Minnesota, USA*
- 2.Effective control of zoonoses in pig production: *Jan Dahl, Danish Agriculture and Food Council (DAFC), Denmark*
- 3.Dealing with the challenge of antibiotic resistance in pig production: *Paul D. Ebner and Yingying Hong, Purdue University, USA*
- 4.Detecting veterinary drug residues in pork: *Amy-Lynn Hall, Amy-Lynn Hall, United States Food and Drug Administration, USA*

Part 2 Quality

- 5.Producing consistent quality meat from the modern pig: *R. D. Warner and F. R. Dunshea, The University of Melbourne, Australia; and H. A. Channon, The University of Melbourne and Australian Pork Limited, Australia*
- 6.Factors affecting pork flavour: *Mingyang Huang and Yu Wang, University of Florida, USA and Chi-Tang Ho, Rutgers University, USA*
- 7.Factors affecting the colour and texture of pig meat: *Xin Sun and Eric Berg, Department of Animal Sciences, North Dakota State University, USA*
- 8.Nutritional composition and the value of pig meat: *Lauren E. O'Connor and Wayne W. Campbell, Purdue University, USA*

Part 3 Sustainability

9. Assessing the environmental impact of swine production: *G.J. Thoma and Ralph E. Martin, University of Arkansas, USA*
- 10.Nutritional strategies to reduce emissions from waste in pig production: *Andre Aarnink, Wageningen University, The Netherlands*
- 11.Organic pig production systems, welfare and sustainability: *Sandra Edwards, University of Newcastle, UK*

Related products:

Achieving sustainable production of pig meat Volume 2, 978-1-78676-092-0, 09 Oct 2017, GBP 160.00, EUR 190.00, USD 200.00, CAD 270.00, and AUD 290.00

Achieving sustainable production of pig meat Volume 3, 978-1-78676-096-8, 31 Dec 2017, GBP 140.00, EUR 170.00, USD 175.00, CAD 240.00, and AUD 250.00

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Achieving sustainable production of pig meat

Volume 2: Animal breeding and nutrition

Edited by Professor Julian Wiseman
University of Nottingham, UK



 burleigh dodds
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New title information

Achieving sustainable production of pig meat Volume 2

Animal breeding and nutrition

Edited by: Prof. Julian Wiseman, University of Nottingham, UK

Endorsement:

"Pig production is one of the major protein sources for society worldwide. This impressive collection of articles from leading pig scientists illustrates how much we know about the domestic pig - and where opportunities to expand our knowledge will emerge. It captures both the academic and commercial perspective and will undoubtedly provide the go-to-reference for students, teachers, practitioners alike for many years to come."

Professor Bruce Whitelaw, The Roslin Institute, University of Edinburgh, UK

Description:

Pig meat is the most widely-consumed meat in the world. Previous growth in production has relied, in part, on more intensive systems. In meeting rising demand, these systems face challenges such as the ongoing threat of zoonotic diseases, the need to improve feed efficiency in the face of rising costs, the need to reduce the environmental impact of pig production and increasing concerns about animal welfare. These challenges are addressed in the three volumes of *Achieving sustainable production of pig meat*. Volume 2 looks at pig breeding and nutrition..

Part 1 starts by reviewing advances and constraints in conventional breeding, the development and use of molecular breeding techniques, as well as factors affecting functional traits such as reproductive and feed efficiency. The second part of the book looks at current research on meeting pig nutritional requirements, including understanding and modelling pig nutritional requirements to optimise feeding, as well as the role of vitamins, exogenous enzymes, growth promoters, prebiotics and probiotics.

With its distinguished editor and international team of expert authors, this will be a standard reference for researchers in swine science as well as producers, government and other organisations involved in supporting pig production. It is accompanied by two companion volumes which focus on safety, quality and sustainability as well as animal health and welfare.

Key features:

- 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 promoters, prebiotics and probiotics in pig nutrition

Audience:

Academic researchers in swine science; pig producers; pig meat processors; government and non-governmental agencies supporting pig meat production.

Editor details:

Dr Julian Wiseman is Professor of Animal Production at the University of Nottingham, UK. He has published widely in the area of non-ruminant nutrition, presented papers at some of the leading international conferences in this area and has written or edited a number of books on animal nutrition. He is co-organiser of the annual Nottingham Feed Conference.

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Part 1 Genetics and breeding

1. Advances and constraints in conventional breeding of pigs: *David S. Buchanan, North Dakota State University, USA*
2. The use of molecular genetic information in genetic improvement programmes for pigs: *Jack C. M. Dekkers, Iowa State University, USA*
3. Factors affecting the reproductive efficiency of pigs: *Glen W. Almond and Emily Mahan-Riggs, North Carolina State University, USA*
4. Factors affecting the reproductive efficiency of boars: *M. L. W. J. Broekhuijse, Topigs Norsvin Research Center B.V., The Netherlands*
5. Genetic factors affecting feed efficiency, feeding behaviour and related traits in pigs: *Duy Ngoc Do, McGill University, Canada; Haja N. Kadarmideen, Technical University of Denmark, Denmark*

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6. Advances in understanding pig nutritional requirements and metabolism: *R.J. van Barneveld, R.J.E. Hewitt and D.N. D'Souza, SunPork Group, Australia*
7. Meeting energy requirements in pig nutrition: *J. F. Patience, Iowa State University, USA*
8. Meeting amino acid requirements in pig nutrition: *Sung Woo Kim, North Carolina State University, USA*
9. Recent advances in understanding the role of vitamins in pig nutrition: *Charlotte Lauridsen, Aarhus University, Denmark; J. Jacques Matte, Agriculture and Agri-Food Canada (AAFC), Canada*
10. Modelling nutrient requirements for pigs to optimise feed efficiency: *Ludovic Brossard, Jean-Yves Dourmad, Florence Garcia-Launay and Jaap van Milgen, PEGASE, INRA – Agrocampus Ouest, France*
11. The use of exogenous enzymes to improve feed efficiency in pigs: *M. R. Bedford and C. L. Walk, AB Vista, UK*
12. The use of growth promoters in pig nutrition: *John M. Brameld, David M. Brown and Tim Parr, University of Nottingham, UK*
13. Use of probiotics and prebiotics in pig nutrition in the post-weaning period: *Ingunn Stensland and John R. Pluske, Murdoch University, Australia*
14. Meeting individual nutrient requirements to improve nutrient efficiency and the sustainability of growing pig production systems: *Candido Pomar, Agriculture and Agri-Food Canada (AAFC), Canada; Ines Andretta, Universidade Federal do Rio Grande do Sul, Brazil; and Luciano Hauschild, Universidade Estadual Paulista, Brazil*

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- Achieving sustainable production of pig meat Volume 3, 978-1-78676-096-8, 31 Dec 2017, GBP 140.00, EUR 170.00, USD 175.00, CAD 240.00, and AUD 250.00
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Achieving sustainable production of pig meat

Volume 3: Animal health and welfare

Edited by Professor Julian Wiseman
University of Nottingham, UK



 burleigh dodds
SCIENCE PUBLISHING

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Updated 29/09/17

New title information

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Animal health and welfare

Edited by: Prof. Julian Wiseman, University of Nottingham, UK

Endorsement:

"Pig production is one of the major protein sources for society worldwide. This impressive collection of articles from leading pig scientists illustrates how much we know about the domestic pig - and where opportunities to expand our knowledge will emerge. It captures both the academic and commercial perspective and will undoubtedly provide the go-to-reference for students, teachers, practitioners alike for many years to come."

Professor Bruce Whitelaw, Interim Director - The Roslin Institute, University of Edinburgh, UK

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This volume looks at animal health and welfare. Part 1 reviews the main diseases affecting pigs as well as ways of managing diseases and boosting pig immune function. Part 2 reviews what we know about pig behaviour and appropriate welfare standards. It also assesses the welfare of different groups of pigs, from gilts and sows to weaned piglets and finishing pigs, as well as transport, lairage and slaughter.

With its distinguished editor and international team of expert authors, this will be a standard reference for researchers in swine science, producers, government and other organisations involved in supporting pig production. It is accompanied by two companion volumes which focus on safety, quality and sustainability as well as animal breeding and nutrition.

Key features:

- 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

Audience:

Academic researchers in swine science; pig producers; pig meat processors; government and non-governmental agencies supporting pig meat production

Editor details:

Dr Julian Wiseman is Professor of Animal Production at the University of Nottingham, UK. He has published widely in the area of non-ruminant nutrition, presented papers at some of the leading international conferences in this area and has written or edited a number of books on animal nutrition. He is co-organiser of the annual Nottingham Feed Conference.

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2. Changing patterns of disease affecting pigs: *Carla Gomes, Scotland's Rural College (SRUC), UK*
3. Understanding and boosting immune function in pigs: *Mick Bailey, University of Bristol, UK*

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4. Disease identification and management on the pig farm: *Dominiek Maes, Jeroen Dewulf, Filip Boyen and Freddy Haesebrouck, Ghent University, Belgium*
5. Understanding pig behaviour: *Simon P. Turner and Richard B. D'Eath, Scotland's Rural College (SRUC), UK*
6. Defining and ensuring animal welfare in pig production: an overview: *Paul H. Hemsworth, University of Melbourne, Australia*
7. Pasture systems for pigs: *Silvana Pietrosevoli and James T. Green, North Carolina State University, USA*
8. Welfare of gilts/pregnant sows: *Sandra Edwards, University of Newcastle, UK*
9. Welfare of weaned piglets: *Arlene Garcia and John J. McGlone, Texas Tech University, USA*
10. Welfare of pigs during finishing: *Jonathan Amory, Writtle College, UK*
11. Transport and lairage of pigs: *Jennifer M. Young, North Dakota State University, USA*
12. Humane slaughter techniques for pigs: *Susanne Støier, Leif Lykke and Lars O. Blaabjerg, Danish Meat Research Institute - Danish Technological Institute, Denmark*

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