

Improving gut health in poultry

Edited by Professor Steven C. Ricke
University of Arkansas, USA



 burleigh dodds
SCIENCE PUBLISHING

Publication date

26 Jul 2019

Price

£180 / \$235 / €215 / A\$325

ISBN

Hardback: 978-1-78676-304-4

Mobi: 978-1-78676-305-1

ePub: 978-1-78676-306-8

PDF: 978-1-78676-307-5

Format

152 × 229 mm / 6 × 9 in, 400 pages

Illustrations

Color tables, photos and figures

Series

Burleigh Dodds Series in Agricultural
Science: no. 73

BIC/THEMA classification

TVHP - Poultry farming, TVF -
Sustainable agriculture



Print (exc. US and Canada) and e-books
(worldwide) distributed by NBN
International.

Updated 05/04/19

New title information

Improving gut health in poultry

Steven C. Ricke, University of Arkansas, USA

Endorsement:

"The proposed content of this book is a timely and comprehensive compilation of current knowledge on a topic that is of considerable interest to poultry scientists worldwide. The internationally renowned contributors as well as the editor are a guarantee of the high standard of the content."

Professor Richard Ducatelle, University of Ghent, Belgium

Description:

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.

Chapters summarise advances in sequencing and omics technologies to understand gut function, current understanding of the gut microbiota, the development of the gut microbiome over the life of the bird, and gut function in nutrient processing and immune response.

The book reviews what we know about factors affecting gut function and health, including gastrointestinal diseases, the interaction between pathogens and the gut as well the impact of antibiotics. The final group of chapters discuss current research on the effectiveness of feed additives in optimising gut health, including probiotics, prebiotics, synbiotics, antimicrobials, essential oils and other botanicals as well as cereal grains.

Key features:

- 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

Audience:

Poultry scientists in universities and research centres; companies manufacturing poultry feed; government and private sector agencies advising poultry farmers on nutrition.

Editor details:

Dr Steven Ricke is the Donald 'Buddy' Wray Chair in Food Safety and Director of the Center for Food Safety in the Institute of Food Science and Engineering at the University of Arkansas, USA. His awards include the University of Arkansas John White Outstanding Research Award, the Poultry Science Research Award and the American Egg Board Award, as well as being named an Arkansas Association for Food Protection Fellow, for his outstanding contributions to food safety research.

Table of contents:

Part 1 Understanding the gastrointestinal tract

1. Overview: commercial poultry production and gut function – historical perspective: *D. K. Dittoe and S. C. Ricke, University of Arkansas, USA; and A. S. Kiess, Mississippi State University, USA*
2. Advances in sequence technologies for generating poultry gut microbiome data: *Jiangchao Zhao, University of Arkansas, USA*
3. Omics technologies for connecting host responses with poultry gut function: *Jana Seifert and Bruno Tilocca, University of Hohenheim, Germany*
4. Understanding gut microbiota in poultry: *Rob Moore, RMIT University, Australia*
5. In ovo development of the chicken gut microbiome and its impact on later gut function: *E. David Peebles, Mississippi State University, USA*
6. Understanding gut function in poultry: immunometabolism at the gut level: *Ryan J. Arsenault, University of Delaware, USA*
7. Understanding gut function in poultry: the role of commensals, metabolites, inflammation, and dysbiosis in intestinal immune function and dysfunction: *Michael H. Kogut, USDA-ARS, USA*

Part 2 Factors that impact the gastrointestinal tract and different types of birds

8. Genetics and other factors affecting gut development and function in poultry: *Zhongtang Yu, Ohio State University, USA*
9. Antibiotics and gut function: historical and current perspectives: *Jeferson M. Lourenço, Darren S. Seidel and Todd R. Callaway, University of Georgia, USA*
10. Gastrointestinal diseases of poultry: *Shayan Sharif, University of Guelph, Canada*
11. The interaction between gut microbiota and pathogens in poultry: *Ruediger Hauck, Auburn University, USA; and Lisa Bielke and Zhongtang Yu, The Ohio State University, USA*
12. The poultry gut and layer hens: *Steven C. Ricke, University of Arkansas, USA*
13. The poultry gut and alternative antibiotic-free poultry production systems: *Michael Rothrock, USDA-ARS, USA*

Part 3 Feed additives and gut health modulation

14. Controlling pathogens in the poultry gut: *Osman Yasir Koyun and Todd Callaway, University of Georgia, USA*
15. The role of probiotics in optimizing gut function in poultry: *Guillermo Tellez and Juan D. Latorre University of Arkansas, USA; Margarita A. Arreguin-Nava, Eco-Bio LLC, USA; and Billy M. Hargis, University of Arkansas, USA*
16. The role of prebiotics in optimising gut function in poultry: *Steven C. Ricke, University of Arkansas, USA*
17. The role of synbiotics in optimizing gut function in poultry: *Guillermo Tellez and Juan D. Latorre University of Arkansas, USA; Margarita A. Arreguin-Nava, Eco-Bio LLC, USA; and Billy M. Hargis, University of Arkansas, USA*
18. The role of antimicrobials in optimising gut function in poultry: *Steven C. Ricke, University of Arkansas, USA*
19. The role of essential oils and other botanicals in optimizing gut function in poultry: *Divek V. T. Nair, Grace Dewi and Anup Kollanoor-Johny, University of Minnesota, USA*
20. The role of specific cereal grain dietary components on poultry gut function: *Paul Iji, Fij National University, Fiji Islands and University of New England, Australia; Apeh A. Omede, University of New England, Australia and Kogi State University, Nigeria; Medani E. B. Abdallah, University of New England, Australia and University of Khartoum, Sudan; and Emmanuel U. Ahiwe, University of New England, Australia and Federal University of Technology, Nigeria*

Related products:

Achieving sustainable production of eggs Volume 1, 978-1-78676-076-0, 21 Mar 2017, USD 235.00, EUR 215.00, CAD 305.00, GBP 180.00, and AUD 325.00

Achieving sustainable production of eggs Volume 2, 978-1-78676-080-7, 28 Feb 2017, USD 170.00, EUR 155.00, CAD 220.00, GBP 130.00, and AUD 235.00

Achieving sustainable production of poultry meat Volume 1, 978-1-78676-064-7, 31 Dec 2016, USD 285.00, EUR 265.00, CAD 375.00, GBP 220.00, and AUD 395.00

Achieving sustainable production of poultry meat Volume 2, 978-1-78676-068-5, 31 Jul 2017, USD 195.00, EUR 180.00, CAD 255.00, GBP 150.00, and AUD 270.00