

TABLE OF CONTENTS

Sustainable Swine Nutrition, 2nd Edition

Contributors

Preface

Editor

Part I Fundamental Nutrition

Chapter 1 Digestive Physiology and Nutrition of Swine

Eugení Roura, Maximiliano Müller, Roger Campbell, Michael Ryoo, and Marta Navarro

Chapter 2 Water in Swine Nutrition

Charles M. Nyachoti, Alemu R. Hunde, and John F. Patience

Chapter 3 Energy and Energy Metabolism in Swine

Jean Noblet, Etienne Labussière, David Renaudeau, and Jaap van Milgen

Chapter 4 Lipids and Lipid Utilization in Swine

Werner G. Bergen

Chapter 5 Amino Acids and Amino Acid Utilization in Swine

Sai Zhang, Rodrigo Manjarin, and Nathalie L. Trottier

Chapter 6 Carbohydrates and Carbohydrate Utilization in Swine

Knud Erik Bach Knudsen, Helle Nygaard Lærke, and Henry Jørgensen

Chapter 7 Vitamins and Vitamin Utilization in Swine

J. Jacques Matte and Charlotte Lauridsen

Chapter 8 Minerals and Mineral Utilization in Swine

Gretchen M. Hill

Chapter 9 Nutrition and Immunology in Swine

Lucas A. Rodrigues, Michael O. Wellington, Andrew G. Van Kessel, and Daniel A. Columbus

Part II Nutrition for Successful and Sustainable Swine Production

Chapter 10 Diet Formulation and Feeding Programs

Sung Woo Kim and Jeffrey A. Hansen

Chapter 11 Cereal Grains, Cereal Grain Byproducts, and Alternative Energy Sources
Rajesh Jha and Tofuko A. Woyengo

Chapter 12 Major Protein Supplements in Swine Diets
Lee I. Chiba

Chapter 13 Pulse Grains and Their Coproducts in Swine Diets
Lifang Wang, Eduardo Beltranena, and Ruurd T. Zijlstra

Chapter 14 Fiber in Swine Nutrition
J. Paola Lancheros, Charmaine D. Espinosa, Su A Lee, Maryane S. Oliveira, and Hans H. Stein

Chapter 15 Anti-nutritional Factors in Feedstuffs
Tofuko A. Woyengo

Chapter 16 Feed Processing Technology and Quality of Feeds
Chad B. Paultk and Charles R. Stark

Chapter 17 Enzymes and Enzyme Supplementation of Swine Diets
Chan Sol Park and Olayiwola Adeola

Chapter 18 Feed Additives in Swine Diets
Cormac J. O'Shea

Chapter 19 Bioavailability of Amino Acids, Phosphorus, and Others
Su A Lee and Hans H. Stein

Chapter 20 Swine Nutrition and Environment
Ming Z. Fan, Brian J. Kerr, Steven Trabue, Xindi Yin, Zeyu Yang, and Weijun Wang

Chapter 21 Swine Housing System, Behavior, and Welfare
Peter J. Lammers, Mark S. Honeyman, Rachel Meredith Park, and Monique D. Pairis-Garcia

Chapter 22 Feeding Reproducing Swine and Neonatal Pigs
Lee J. Johnston

Chapter 23 Feeding Weanling, Grower, and Finisher Swine
Robert D. Goodband, Mariana B. Menegat, and Hayden E. Williams

Chapter 24 Organic Swine Production and Nutrition
Sandra A. Edwards

Chapter 25 Swine Nutrition and Pork Quality
Jason K. Apple.