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Nota di contenuto	Nutritional Modelling for Pigs and Poultry; Copyright; Contents; Contributors; Preface; Acknowledgements; 1. An Overview of Poultry Models; Abstract; Introduction; Types of Poultry Models; Models of scientific theories; Models to extend and increase the value of pen trials; Growth curves; Empirical models of poultry production systems; Mechanistic models of poultry production systems; Real-time control models; Discussion; References; 2. InraPorc: Where Do We Come From and Where Do We Want to Go?; Abstract; Introduction; Using the InraPorc Software Tool Our Love-Hate Relationship with Maintenance Feed Intake; Potential Protein Deposition; Maintenance Energy Requirement; Response to a Feed Restriction; Response to the Amino Acid Supply; Modelling Amino Acid Utilization vs an Ideal Amino Acid Profile; Accounting for Variation Among Animals; Conclusions; References; 3. Modelling Reproduction in Broiler Breeder and Laying Hens; Abstract; Introduction; Predicting the Age at Sexual Maturity; Commercial laying pullets; Broiler breeder pullets; Modelling Potential Egg Output; Modelling Egg Weight and Composition

Predicting Body Weight and Composition of a Hen  
Predicting Food Intake; Optimization; Conclusions; References; 4. Modelling Nutrient Utilization in Sows: A Way Towards the Optimization of Nutritional Supplies; Abstract; Introduction; General Description of the Sow Module of InraPorc; Factorial Calculation of Sow Requirements; Short- and Long-term Simulation of Performance; Dealing with the Variability of Requirements; Improving Nutrient Utilization and Reducing Excretion; Conclusion; References; 5. Statistical Issues in Nutritional Modelling; Abstract; Introduction; Linear Birth-Death Process  
Sources of Stochasticity in Models  
Sensitivity Analysis of Stochastic Models; Model Validation; Deviance Analysis; Concordance analysis; Linear functional relationship; Conclusions; References; 6. Basics and Applications of an Exponential Nitrogen Utilization Model ('Goettingen Approach') for Assessing Amino Acid Requirements in Growing Pigs and Meat Type Chickens Based on Dietary Amino Acid Efficiency; Abstract; Introduction; Exponential N Utilization Model ('Goettingen Approach'); Background for developments; Basics of the model development; Current Applications  
Amino acid requirements based on dietary amino acid efficiency  
Ideal amino acid ratios (IAARs) based on dietary amino acid efficiency; Applications in evaluation of sustainability of feed to food protein; References; 7. Artificial Neural Networks; Abstract; Introduction; The First Neuron - Perceptron; Multilayer Perceptron Neural Networks; Multilayer Artificial Neural Networks in Animal Science (MLP); Conclusions; References; 8. Challenges Associated with the Application of Poultry Models: The Case of Turkeys; Abstract; Introduction; Framework Description; Defining needs and expectations  
Framework

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### Sommario/riassunto

Modelling is a useful tool for decision making in complex agro-industrial scenarios. Containing a selection of the papers presented at the International Symposium of Modelling in Pig and Poultry Production 2013, this book brings together the best and most recent academic work on modelling in the pig and poultry industry, with a particular emphasis on nutrition. It reviews basic modelling concepts, descriptions and applications of production models and new methods and approaches in modelling.

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