1. Record Nr. UNINA9910154813903321

Autore	McDonald Peter <1926->
Titolo	Animal nutrition / / P McDonald
Pubbl/distr/stampa	Harlow, England : , : Prentice Hall, , [2011] ©2011
ISBN	1-4886-8418-9 1-283-17349-2 9786613173492 1-4082-0427-4
Edizione	[Seventh edition.]
Descrizione fisica	1 online resource (xvii, 694 pages) : illustrations
Altri autori (Persone)	McDonaldPeter <1926->
Disciplina	636.0852
Soggetti	Animal nutrition
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Animal Nutrition -- Contents -- Preface to the seventh edition -- Acknowledgements -- Part 1 The components of foods -- The animal and its food -- Water -- Dry matter and its components -- Analysis and characterisation of foods -- Summary -- Further reading -- Carbohydrates -- Classification of carbohydrates -- Monosaccharides -- Monosaccharide derivatives -- Oligosaccharides -- Polysaccharides -- Lignin -- Summary -- Further reading -- Lipids -- Classification of lipids -- Fats -- Glycolipids -- Phospholipids -- Waxes -- Steroids -- Terpenes -- Summary -- Questions -- Further reading -- Proteins, nucleic acids and other nitrogenous compounds -- Proteins -- Amino acids -- Peptides -- Structure of proteins -- Properties of proteins -- Classification of proteins -- Nucleic acids -- Other nitrogenous compounds -- Nitrates -- Alkaloids -- Summary -- Further reading -- Vitamins -- introduction -- Fat-soluble vitamins -- The vitamin B complex -- Vitamin C -- Hypervitaminosis -- Summary -- Further reading -- Minerals -- Functions of minerals -- Natural and supplementary sources of minerals -- Acid-base balance -- Major elements -- Trace elements -- Other elements -- Summary -- Further reading -- Part 2 The digestion and metabolism of nutrients -- Enzymes -- Classification of enzymes -- Nature of enzymes --

Mechanism of enzyme action -- Specific nature of enzymes -- Factors affecting enzyme activity -- Nomenclature of enzymes -- Summary -- Further reading -- Digestion -- Digestion in monogastric mammals -- Microbial digestion in ruminants and other herbivores -- Alternative sites of microbial digestion -- Nutrient digestion and the environment -- Summary -- Further reading -- Historical reference -- Metabolism -- Energy metabolism -- Protein synthesis -- Fat synthesis -- Carbohydrate synthesis -- Control of metabolism -- Summary. Further reading -- Part 3 Quantifying the nutrient content of foods: digestibility, energy and protein values -- Evaluation of foods: digestibility -- Measurement of digestibility -- Validity of digestibility coefficients -- Digestibility in different sections of the digestive tract -- Factors affecting digestibility -- Measurement of mineral availability -- Summary -- Questions -- Further reading -- Evaluation of foods: energy content of foods and energy partition within the animal -- Demand for energy -- Supply of energy -- Animal calorimetry: methods for measuring heat production and energy retention -- Utilisation of metabolisable energy -- Summary -- Questions -- Further reading -- Evaluation of foods: systems for expressing the energy value of foods -- Energy systems and energy models -- Energy systems for ruminants -- Energy systems for pigs and poultry -- Energy systems for horses -- Predicting the energy value of foods -- Summary -- Questions -- Further reading -- Historical references -- Evaluation of foods: protein -- Crude protein -- Digestible crude protein -- Determination of endogenous nitrogen -- Measures of protein quality for monogastric animals -- Measures of food protein used in practice in the feeding of pigs and poultry -- Measures of food protein used in practice in the feeding of horses -- Measures of protein quality for ruminant animals -- The UK metabolisable protein system -- Feed into Milk -- Summary -- Questions -- Further reading -- Part 4 The nutrient requirements of animals -- Feeding standards for maintenance and growth -- Nutrient requirements for maintenance -- Nutrient requirements for growth -- Nutrient requirements for wool production -- Mineral and vitamin requirements for maintenance and growth -- Nutritional control of growth -- Summary -- Questions -- Further reading -- Historical reference.
Feeding standards for reproduction -- Nutrition and the initiation of reproductive ability -- Plane of nutrition, fertility and fecundity -- Egg production in poultry -- Nutrition and the growth of the foetus -- Summary -- Questions -- Further reading -- Lactation -- Sources of milk constituents -- Nutrient requirements of the lactating dairy cow -- Nutrient requirements of the lactating goat -- Nutrient requirements of the lactating ewe -- Nutrient requirements of the lactating sow -- Nutrient requirements of the lactating mare -- Summary -- Questions -- Further reading -- Voluntary intake of food -- Food intake in monogastric animals -- Food intake in ruminants -- Food intake in horses -- Prediction of food intake -- Summary -- Questions -- Further reading -- Part 5 The nutritional characteristics of foods -- Grass and forage crops -- Pastures and grazing animals -- Grasses -- Legumes -- Other forages -- Summary -- Questions -- Further reading -- Silage -- Silage, ensilage and silos -- Role of plant enzymes in ensilage -- Role of microorganisms in ensilage -- Nutrient losses in ensilage -- Classification of silages -- Nutritive value of silages -- Whole crop cereal and legume silages -- Summary -- Questions -- Further reading -- Hay, artificially dried forages, straws and chaff -- Hay -- Artificially dried forages -- Straws and related by-products -- Summary -- Questions -- Further reading -- Roots, tubers and related by-products -- Roots -- Tubers -- Summary -- Questions -- Further

reading -- Cereal grains and cereal by-products -- The nutrient composition of grains -- Barley -- Maize -- Oats -- Wheat -- Other cereals -- Cereal processing -- Summary -- Questions -- Further reading -- Protein concentrates -- Oilseed cakes and meals -- Oilseed residues of minor importance -- Leguminous seeds -- Animal protein concentrates -- Milk products.
Single-cell protein -- Synthetic amino acids -- Non-protein nitrogen compounds as protein sources -- Summary -- Questions -- Further reading -- Food additives -- Antibiotics -- Probiotics -- Oligosaccharides -- Enzymes -- Organic acids -- Spray-dried plasma -- Modifiers of rumen fermentation -- Summary -- Questions -- Further reading -- Part 6 Animal products and human nutrition -- Animal nutrition and the consumers of animal products -- Comparative nutrition -- The contribution of animal products to human requirements -- Objections to the use of animal products -- Future trends in the consumption of animal products -- Summary -- Questions -- Further reading -- Appendix 1: Solutions to numerical questions -- Appendix 2: Notes on tables -- Index.

Sommario/riassunto

The latest edition of this classic text has been reorganised to provide a clear and comprehensive introduction to the science and practice of animal nutrition. Animal Nutrition is split into six main sections covering: The components of food; The digestion and metabolism of nutrients; Quantifying the nutrient content of foods: digestibility, energy and protein values; The nutrient requirements of animals; The nutritional characteristics of foods; and Animal products and human nutrition. The Appendices provides comprehensive tables on the composition of foods and feeding standards for dairy and beef cattle, sheep, pigs and poultry, and horses.The text is supported by key experimental evidence throughout. Quantitative aspects of the subject are clearly explained and illustrated by worked examples. Problems and solutions have now been added to all chapters to aid student learning.