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## Digestive physiology and nutrition of ruminants. Volume 2. Nutrition.

Author(s) : [Church, D. C.](#)

Book : [Digestive physiology and nutrition of ruminants. Volume 2. Nutrition.](#) 1979. + 452pp.

Abstract : The production of the second edition of the second volume of what has become established as a most useful text will be welcomed by students and workers alike. The small criticisms made of the presentation of the first edition have largely been met in the standards of the materials, and the hard covers solve the problems of the first edition copies which tended to wear out (itself a comp

usefulness of the book). Once again the use of very clear diagrams and good photographs aid the clarity of the text enormously. The material presented in this edition has been considerably expanded. A number of chapters have been added for wider coverage. For instance, the chapter entitled "The requirements for carbohydrates and vitamins; development of purified diets" has been divided into separate topics. The coverage of the book is very wide; from the often ignored water metabolism through metabolism in the gut and tissues to the requirements for specific nutrients. The addition of the chapters on carbohydrate metabolism (A. J. F. Weekes) and energy metabolism (A. J. F. Webster) enhance the balance and the treatment of energy metabolism is given in terms of both ME and DE. This makes the book useful if it is to be of international use. However, one slight disadvantage is the use of the calorie as the unit of energy. The section (W. G. Bergen) on the interrelationships between nutrients is a welcome addition as it highlights some of the most important factors remaining in the accurate assessment of dietary requirements. From an educational point of view the book should be of great value to post-graduate students who wish to specialise in nutrition. The cost of the volume is so modest that one can recommend its purchase without too much feeling of guilt. The one, possibly inevitable, drawback for book as far as undergraduates are concerned is a tendency to refer to works as Volume 1, making the purchase of both volumes essential. J. M. Chesworth.

ADDITIONAL ABSTRACT: This is the 2nd edition of the volume first published in 1971. Each chapter has concise, comprehensive and well written text which give historical, theoretical and practical perspectives on the topics discussed. Chapters are as follows. Introduction (pp. 1-3). Water (pp. 4-24, 127 ref.). Nitrogen metabolism and requirements, by D. C. Church & J. P. Fontenot (pp. 25-55, 365 ref.). Macro minerals, by J. P. Fontenot & D. C. Church (pp. 56-99, 365 ref.). The trace elements, by D. C. Church, S. L. Hansard, J. K. Miller & P. D. Whanger (pp. 100-166, 583 ref.). Protein utilization and requirements (pp. 167-186, 155 ref.). Carbohydrate metabolism and requirements, by A. J. F. Weekes (pp. 187-209, 141 ref.). Energy metabolism and requirements, by A. J. F. Webster (pp. 210-229, 42 ref.). Vitamins (pp. 230-257, 262 ref.). Nutrition of preruminants, by R. Walker (pp. 258-280, 174 ref.). Taste, appetite and regulation of energy balance and control of food intake, by D. C. Church (part I) & C. A. Baile (part II) (pp. 281-310). Milk fever ketosis, by L. H. Schultz (pp. 321-340, 79 ref.). Magnesium tetany and calculi, by D. C. Church & J. P. Fontenot (pp. 341-355, 160 ref.). Mineral toxicities, by D. C. Church (pp. 356-365, 74 ref.). Livestock poisoning by plants, by L. F. James (pp. 366-382, 63 ref.). Environmental stress on nutritional physiology, by D. R. Ames (pp. 383-399, 100 ref.). Effect of miscellaneous stress on nutrition (pp. 400-429, 268 ref.). Nutrient-nutrient-hormonal and nutrient-genetic interaction, by W. G. Bergen (pp. 430-441, 43 ref.). Purified diets, by G. E. Smith & L. A. Muir (pp. 442-447, 55 ref.). The first two volumes, in particular, which consider requirements factorially, contain special discussions on the

metabolism and requirements of lactating cows.

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