

Publications

Book Reviews

Food Texture and Viscosity: Concepts and Measurement, by Malcolm C. Bourne (Academic Press Inc., 111 Fifth Ave., New York, NY 10003, 1982, 325 pp., \$36).

In his preface, Bourne described this book as "intended for those who want to know more about the texture and viscosity of food and how these properties are measured." This statement is, in fact, a very appropriate representation of the book. From the history and definitions of texture in Chapter 1 to the excellent list of suppliers of texture and viscosity measuring instruments in the Appendix, the book provides a comprehensive presentation of the topic of food texture.

Principles of texture measurement are examined in a discussion of the body structures related to texture in Chapter 2, a discussion of the principles of objective textural measurement in Chapter 3 and a description of the concepts of viscosity and consistency in Chapter 5. Applications of these principles are described in a discussion of the various objective measurements of texture in Chapter 4, with sensory measures of texture and viscosity in Chapter 6, and with considerations in selecting an appropriate test procedure in Chapter 7.

Bourne makes the statement in the preface that the book is set up so that it may be read selectively, allowing each reader to select those parts most applicable to his or her own needs. This set-up, while appropriate for the stated purpose, resulted in the need to repeat principles in the descriptions of the tests. For a reader selectively reading parts this was good, but for a reader going through the entire text this seemed needlessly repetitive.

This book is perhaps the best volume on food texture currently available. It would make an excellent text for a course on this subject and would serve as a useful reference for those involved in food texture measurement. Although the mathematical derivations of the equations for the textural properties are not given, the presentation of these equations is detailed enough that it is not appropriate for someone with a limited mathematics background. This does not, however, limit the usefulness of those sections of the book related to selection and use of test procedures.

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Protein Quality in Humans: Assessment and In Vitro Estimation, edited by C.E. Bodwell, J.S. Adkins and D.T. Hopkins (AVI Publishing Co. Inc., PO Box 831, Westport, CT 06881, 1981, \$49.50, 435 pp.).

This book is a composite of information presented at a conference and workshop held in Virginia in 1980. Over 400 pages are devoted to reviewing our present knowledge about the methods and needs for estimating protein quality. Each chapter in the four sections of this book is written in easily understandable terms and contains many recent and excellent references. Nationally and internationally recognized experts in the area of protein and amino acid nutriture have submitted information supplied in the 21

chapters. Many excellent tables and figures are given to aid the reader in comprehending the information and concepts presented.

The first 58 pages are devoted to discussing the importance of protein quality evaluation. It was emphasized that the two major purposes for evaluating protein quality are for ranking proteins according to their potential nutritive value and for predicting the efficacy of proteins in meeting human requirements for amino acids. This latter purpose has obvious regulatory implications. The reader will appreciate the comments made in this section that deal with the importance of protein quality assessment in relationship to regulatory needs of FDA and USDA and the needs of industry.

The second section of this book addressed methods for assessing protein nutrition in humans. Five chapters cover our present knowledge of long- and short-term assays and the potential usefulness of biochemical markers, such as plasma postprandial concentrations of free amino acids or urea. Typical concerns, such as reliability, cost, and sensitivity, for each of the assays are reviewed.

The third and largest section of this book is aimed at reviewing our present knowledge about the sensitivity and reliability of in vitro methods for assessing protein nutritional value. The 215 pages in this section review numerous topics including collaborative studies on amino-acid analysis, use of enzymatic hydrolysates, microbial evaluation and statistical considerations needed for estimating protein nutritional value. The information presented in this section is of interest; however, the reader is left without knowing which method is best or at least represents an overall consensus of opinions.

The last section contains two task-force reports and a conference overview. A short index is also included that will aid the reader in locating specific information.

It is clear limitations exist in our knowledge of evaluating protein nutriture. Unfortunately, the lack of data and consensus of scientists may result in legal and political actions that may dictate the future use of protein products. This book does an adequate job in reviewing these concerns and provides the reader with a review of the present methods available for protein evaluation in human beings. This book will be of exceptional value to individuals specifically dealing with various aspects of protein and amino acid nutriture. In addition this book will serve as a valuable reference text to many in industry, academia and regulatory agencies.

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Fibre in Human and Animal Nutrition, The Royal Society of New Zealand, Bulletin 20, edited by G. Wallace and L. Bell (The Royal Society of New Zealand, Private Bag, Wellington, New Zealand, 1983, 249 pp., New Zealand \$35 plus \$2.40 shipping, approximately U.S. \$25).

The book is divided into six parts: Part I, Dietary Fibre Deficiency as a Cause of Disease; Part II, Dietary Fibre and Digestive Physiology; Part III, Plant Cell Walls in Relation

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to the Digestive Process; Part IV, Effects of Fibre on the Intestinal Luminal Environment; Part V, Metabolic and Nutritional Effects of Dietary Fibre; Part VI, Dietary Fibre in the 21st Century. Within each of the parts, several plenary papers (from three to seven) are presented. These are followed by an Abstract section (presented by topic) and a Workshop Report.

Relative to previously published subject matter in the area of dietary fibre, this book represents, in the opinion of this reviewer, the most comprehensive coverage of the subject that has been published to date. This is true in the sense that the workshop organizers in a most effective manner integrated research that has been conducted with ruminant and nonruminant animals as well as humans. While the plenary papers are relatively short (three to nine pages in length) and lack detail, authors discuss, in general terms, the very latest information on their particular subject, and most authors provide an excellent reference set at the end of their paper. Papers are consistently good in that they are well written and summarize important literature. Workshop reports highlight the most important points made by plenary session speakers. More importantly, they summarize possible directions in which research in a particular area should proceed. My only criticism of the book is that not much is gained by having access to the short abstracts published in this volume. I assume that the Abstracts were included to provide complete coverage of the Proceedings of the Symposium.

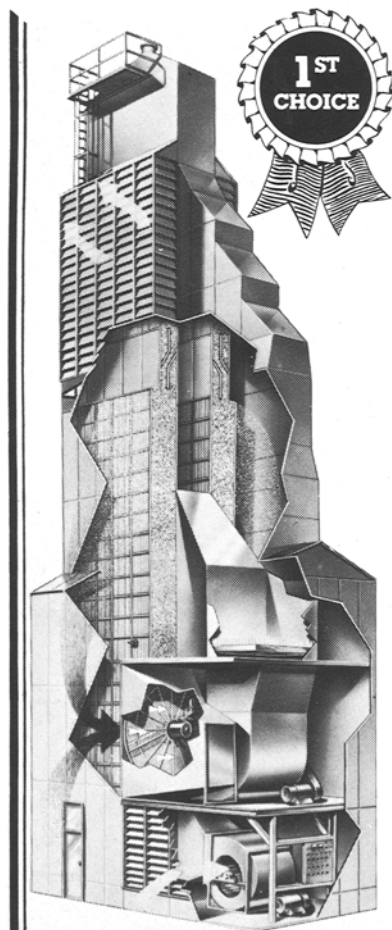
The book is recommended as a valuable reference to nutritionists and others interested in the many facets of

dietary fibre research. Those readers of the *Journal of the American Oil Chemists' Society* interested in fibre-lipid interactions will find in this book a thorough coverage of that subject.

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Environmental Problem Solving Using Gas and Liquid Chromatography, Journal of Chromatography Library Vol. 21 by R.L. Grob and M.A. Kaiser (Elsevier Scientific Publishing Co., 52 Vanderbilt Ave., New York, NY, 1982, 240 pp., \$59.50).

This book is divided into 8 chapters: scope of the problem, criteria for the sampling process, sampling techniques, sample treatment, use of gas chromatography in environmental analysis, use of liquid chromatography in environmental analysis, safety in the chromatography laboratory and regulations, regulatory and advisory groups. The text starts off in a whimsical, quasihumorous fashion that creates a rather poor impression. This impression is reinforced by rather poor-quality camera-ready copy that is ill-suited to the frequent inclusion of 5- and 6-page tables with low information content. Coverage tends to be extremely uneven. In the LC chapter, eight different types of detectors are covered in two and one-half pages but in the sampling chapter, one and one-half pages are needed to describe the preparation of evacuated glass sampling bulbs.



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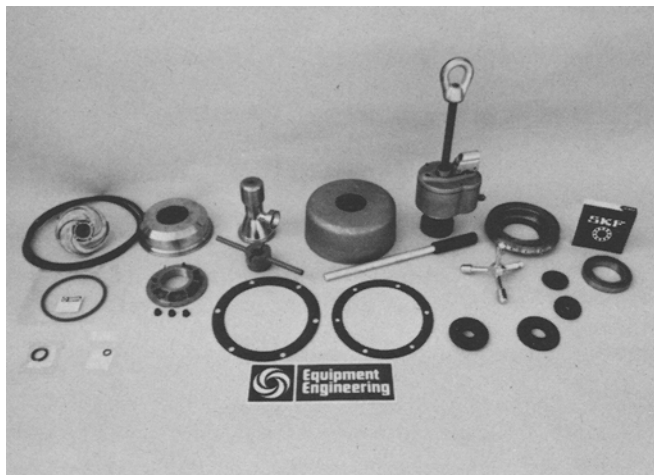


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Twenty-two national organizations having regulatory powers are covered in 13 pages, which includes about 9 pages of tables specifying regulatory limits largely from Canada. Chapter 5 is composed of 20 pages of loosely spaced text, 10 pages of even more loosely spaced tables and 16 pages of references. Unfortunately, 60% of the 379 references are not cited in the text and instead are listed as "related readings."

Quite frankly this volume is not up to the high standards characteristic of this series. It was tossed aside and forgotten until the reviewer was dunned by the publisher.

J. B. Smith
Anderson & Co.
San Francisco, CA

New Publications

Handbook of Chemical Specialties: Textile Fiber Processing, Preparation, and Bleaching, by John E. Nettles, John Wiley & Sons Inc., 605 Third Ave., New York, NY 10158, 1983, 467 pp., \$60.

Surface Coatings, Vol. 1: Raw Materials and Their Usage, prepared by the Oil and Colour Chemists' Association of Australia, Chapman and Hall and Methuen Inc., 733 Third Ave., New York, NY 10017, 1983, 408 pp., \$56.

Leukotrienes and Other Lipoxygenase Products: Proceedings of the Annual Symposium of the Institute of Basic Medical Sciences, Royal College of Surgeons of England, Oct. 25-26, 1982, edited by P.J. Piper, John Wiley & Sons Inc., 605 Third Ave., New York, NY 10158, 1983, 353 pp., \$61.95.

Advances in Cereal Science and Technology, Vol. VI, edited by Y. Pomeranz, American Association of Cereal Chemists Inc., 3340 Pilot Knob Rd., St. Paul, MN 55121, 1984, 403 pp., \$35 members, \$43.75 nonmembers.

The Chemical Formulary, Vol. XXV, editor-in-chief H. Bennett, The Chemical Publishing Co. Inc., 155 W. 19th St., New York, NY 10011, 1983, 435 pp., \$35.

New Pathways for Organic Synthesis: Practical Applications of Transition Metals, by H.M. Colquhoun, J. Holton, D.J. Thompson and M.V. Twigg, Plenum Press Publishing Corp., 233 Spring St., New York, NY 10013, 1984, 454 pp., \$59.50 U.S. and Canada, 20% higher elsewhere.

ERDE International, Journal of Technical Information on Botanical and Animal Active Ingredients for the Cosmetic, Perfumery and Flavor Industries, PO Box 25007, Phoenix, AZ 85002. U.S., Canada and Latin America, \$80 for one year; elsewhere \$95. New quarterly technical publication.

National Fire Codes Subscription Service of nine loose-leaf binders with updated texts of the 1984 National Fire Codes, and the **1984 Fire Codes** eight-volume set are available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Fats (Lipids) in Baking and Extrusion. Contributions at a Lipidforum Symposium April 11-12, 1983, Göteborg, edited by Reinhard Marcuse, Lipidforum, Scandinavian Forum for Lipid Research and Technology, c/o SIK, Box 5401, S-402 29, Göteborg, Sweden, 1984, 138 pp., SEK 130 plus postage.