Publications

Book reviews

Advances in Nutritional Research, Vol. 2, edited by H.H. Draper (Plenum Press, 227 W. 17th St. New York, NY, 1979, 250 pp., $27.50).

Gross nutritional requirements are reasonably well understood and attention has turned to the subtleties of interaction. Many of the reviews contained in this volume are concerned with important but somewhat vague nutritional inputs to complex balance situations. This is well illustrated by the four chapters concerning various aspects of nutrition and cancer. Routine ingestion of drugs, hepatotoxins and xenobiotics is a simple matter of fact in view of our lifestyle and environment. Catabolism of these compounds frequently begins with the mixed function oxidase system and also frequently involves formation of conjugates. "Influence of Nutrition on Metabolism of Carcinogens," by T.C. Campbell, considers the nutritional inputs to these systems. A part of the problem is that the mixed function oxidase system, not infrequently, enhances toxicity or converts compounds to forms which are carcinogenic such as the epoxides of the polycyclic aromatic hydrocarbons. This may be followed, however, by diol formation and conjugation with glutathione.

Goldin and Gorbach, in "Microbial Factors and Nutrition in Carcinogenesis," consider the effect of diet on intestinal flora. This is important in terms of both microbial products such as sterol oxidation products and the cleavage of conjugates by microbial enzymes. Some aspects of this topic are also considered by Reddy in "Nutrition and Colon Cancer." The additional factor is raised that dietary fiber, by lowering residence time of such products in the gut, may also lower their deleterious effects. In "Trace Elements in Carcinogenesis," Schrauzer considers essentiality, oncogenicity and mutagenicity of trace elements. The "anticarcinogenic" properties of selenium may be an aspect of the free-radical control problem. Ganther, in "Metabolism of Hydrogen Selenide and Methylated Selenides," provides additional information on this toxic but essential trace element.

Draper and Bell, in "Nutrition and Osteoporosis," consider only the condition of indeterminate etiology in middle-aged and older men and women. While not entirely supporting the view that aging bone loss is inevitable, they admit the significance of nutrition is still obscure.

The remaining four reviews cover a diverse group of topics including: "Regulation of Energy Metabolism in Ruminants," by Baldwin and Smith; "Influence of Nutritional Status on Susceptibility to Infection," by Chandra; "Atherosclerosis and Nutrition," by Kritchevsky, and "Nutrition and Neural Lipids," by P.V. Johnston.

This series has produced an interesting group of reviews through the first two volumes and in general the quality seems excellent. It will be interesting to see how future volumes compete with the announced new entry in the Annual Review Series, *Annual Review of Nutrition.* The only unhappiness with this series, a wish that the authors had been given a little more space to elaborate on their topics, really reflects an enthusiastic reception rather than a criticism.

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Nutrition in the Life Span, by V.A. Beal (John Wiley & Sons, Inc., New York, NY, 1980. 465 pp., $17.50).

This text brings together the nutritional needs for all age groups. With the exception of the elderly, the concentration is on normal growth, development and nutritional needs.

The first chapter deals with nutrition, growth and body composition. Here the author describes methods of study of nutrition, measurement of the body, changes in body tissue with age and measurement of body composition. Chapter 2, "Assessment of Nutritional Status," consists of sections on nutritional assessment, biochemical iron deficiency and anemia, and obesity. The next two chapters deal with nutritional needs in pregnancy and lactation. Appropriate background material on fertilization, implantation and organogenesis, the placenta, maternal physiological adjustments, development and function of the breasts, and the process of lactation is provided in these chapters. The following chapters consider nutrition in infancy, the preschool years and middle childhood. These three chapters have the same organization. There are sections on physical growth, physiological development related to nutrition, psychosocial-biological interaction, nutrient requirements and recommended dietary allowances, and meeting nutrient needs. Chapter 8 on pubescence and adolescence has additional sections on hormonal influences on growth and maturation, sequence of development changes, physiological maturation and nutritional aspects of health. The final chapter deals with the adult and the elderly. The emphasis in this chapter is on the elderly. As the author points out, nutrition and degenerative diseases are intertwined in the elderly, so the approach in this chapter differs from the others. There are discussions of the aging process, theories of aging, and diseases more prevalent in the elderly such as osteoporosis. Finally, three appendices provide the 1979 Recommended Dietary Allowances, percentile tables for weight and height by sex, and a table of laboratory evaluation.

This book is very sound in content and is well organized. It is primarily intended for upper level undergraduate and graduate students of nutrition, dietetics, nursing or medi-

cine. It can also serve as a reliable source book for *JAOCS* readers interested in nutrition at various ages. The price at $17.50 is very reasonable by today's standards.

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Nutritional Improvement of Food and Feed Proteins, edited by M. Friedman (Plenum Press, New York, 882 pp., 1978, $69.50).

This extensive volume includes both papers from the proceedings of a symposium on Improvement of Protein Nutritive Quality of Foods and Feeds (sponsored by the Protein Subdivision of the Division of Agriculture and Food Chemistry of ACS) held in Chicago during 1977 and an equal number of invited contributions on the subject. Many of the 40 chapters fall within general topic areas of: breeding of cereals and legumes for improved protein quality and quantity, complementation of protein sources, chemically modified proteins and amino acids and fortification of plant foods with intact or modified amino acids. Chapters are, for the most part, reviews of each author's recently published research. The authors are well chosen and the chapters are written and referenced well, although the latest references in chapters are usually from 1977.

The editor's stated intent for this volume was to provide a complement to other recently published books on protein quality, several of which have been written or edited by Dr. Friedman. This objective was met, although some inevitable repetition was noted.

Only a fourth of the chapters deal directly with oilseed proteins. The effects of genetic manipulation, complementation, germination and chemical modification of soy, cottonseed and rapeseed protein upon nutritional quality are discussed in many of these chapters. No new information is presented but classic studies are reviewed.

This book is highly recommended for the libraries of companies actively engaged in food and feed proteins research, as it is an excellent reference text. Individual researchers will find the book's cost prohibitive.

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Ion Chromatographic Analyses of Environmental Pollutants, Vol. 2, edited by J.D. Mulik and E. Sawicki. (Ann Arbor Science, PO Box 1425, Ann Arbor, MI 47106, Xi, 435 pp., $37.50).

This volume emanates from the Second National Symposium of Ion Chromatographic Analyses of Environmental Pollutants held by the U.S. Environmental Protection Agency in Fall 1978. The book consists of 33 chapters reporting papers presented at this symposia. Thirty-one chapters deal with applications of IC (ion chromatography) whereas chapter one is introductory and chapter 24 deals with sampling. Fifteen chapters report their work done with the

Dionex Model 10; 12 chapters report work done with the Dionex Model 12 (one instrument is unidentified) and three chapters do not mention the type of instrument. The papers document applications of IC to a wide range of matrices. Examples are: combustion products, ambient air, rain water, river water, soil extracts, and industrial process environments. Generally the analyses are successful and the author provides sufficient detail about techniques developed or modifications used to enlighten the reader. The credibility of IC is demonstrated by corroborating referee analyses. Advancing growth of IC is evidenced in the book by three levels of activity: (a) application of IC to "new" ions and matrices; (b) Multi-ion, wide spectrum rapid proximate analyses; and (c) acceptance of IC as the method of choice. It is a summation of the state-of-the-art and a collection of procedures. The book is recommended for chemists in supervisory capacities because it presents an awareness of the potential for IC, and for the bench chemist because of the helpful, wide spectrum adaptations presented.

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New publications

Advances in Environmental Science and Engineering, Vol. 3, edited by J.R. Pfafflin and E.N. Ziegler, 1980, 224 pp., $59, Gordon and Breach Publishers, Inc., One Park Ave., New York, NY 10016.

Food, Ecology and Culture: Readings in the Anthropology of Dietary Practices, edited by J.R.K. Robson, 1980, 143 pp., $27.50, Gordon and Breach Publishers, Inc., One Park Ave., New York, NY 10016.

Food Engineering: Principles and Selected Applications, by M. Loncin and R.L. Merson, 1979, 494 pp., $47, Academic Press, Inc., 111 Fifth Ave., New York, NY 10003.

World Soybean Research Conference II: Abstracts, edited by F.T. Corbin, 1980, 124 pp., $16. Contains summaries of more than 200 papers presented at the World Soybean Research Conference II, held March 26-29, 1979, at North Carolina State University, Raleigh, North Carolina. Westview Press, Customer Service Dept., 5500 Central Ave., Boulder, CO 80301.

World Soybean Research Conference II: Proceedings, edited by F.T. Corbin, 1980, 897 pp., $38.50. Contains 74 of the papers presented at the World Soybean Research Conference II, held March 26-29, 1979, at North Carolina State University, Raleigh, North Carolina. Westview Press, Customer Service Dept., 5500 Central Ave., Boulder, CO 80301.

Advances in Nutritional Research, Vol. 2, by H.H. Draper, 1980, 250 pp., $27.50, Plenum Publishing Corp., 227 W. 17th St., New York, NY 10011.

Human Nutrition: A Comprehensive Treatise, Vols. 1, 2, 3A, 3B and 4, edited by R.B. Alfin-Slater and D. Kritchevsky, 1980, 2,640 pp., priced at $39.50, $37.50, $25.00, $39.50 and $37.50, respectively, Plenum Publishing Corp., 227 W. 17th St., New York, NY 10011.

Advances in Cereal Science and Technology, Vol. 3, edited by Y. Pomeranz, 1980, 348 pp., $32.50, American Association of Cereal Chemists, Inc., 3340 Pilot Knob Rd., St. Paul, MN 55121.

Advances in Chromatography, Vol. 18, edited by J.C. Giddings, E. Grushka, J. Cazes and P.R. Brown, 1980, 312 pp., $38.50, Marcel Dekker, Inc., 270 Madison Ave., New York, NY 10016.

Biochemical Applications of Mass Spectrometry, first supplementary volume, edited by G.R. Waller and O.C. Dermer, 1980, 1,279 pp., $150.00, John Wiley and Sons, One Wiley, Dr., Somerset, NJ 08873.

Coconut Aqueous Processing, by Robert D. Hagenmaier, 1980, 213 pp., $12.50 hard bound, $8.75 soft cover, San Carlos Publications, University of San Carlos, Cebu City, Philippines. Second edition of work first published in 1977 by same publisher.

Soy Oil As Diesel Fuel: Economic and Technical Perspectives, by David R. Erickson and Parry Dixon, American Soybean Association, PO Box 27300, St. Louis, MO 63141. A four-page pamphlet on the potential use of soybean oil as a diesel fuel. General conclusions: soy oil can be used as a fuel, but long-term effects on engines are unknown; soy oil is presently more expensive than diesel fuel; and commercial use of soy oil as a fuel will raise the price of soy oil.

Publications of the National Bureau of Standards, SP 305/Supplement 11, 1980, 615 pp., $11, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Order stock #003-003-02194-6. Catalog describes and annotates some 1,000 papers concerning the research and technical services of NBS.

Advances in Cereal Science & Technology, Vol. 3, edited by Y. Pomeranz, 1980, 348 pp., $32.50, American Association of Cereal Chemists, Inc., 3340 Pilot Knob Road, St. Paul, MN 55121.