

NEW BOOKS

Advances in Agronomy

Vol. 4. Edited by A. G. NORMAN, xi + 416 pages. Academic Press, Inc., 125 East 23rd St., New York 10, N. Y. 1952. \$8.50. Reviewed by M. S. ANDERSON, USDA, Beltsville, Md.

Volume 4 follows the general pattern of the three preceding volumes. Soil and plant science problems are discussed from widely varied viewpoints. Minor elements are given particular consideration. The chapter on copper in nutrition reviews the nutritional status of this element in different countries of the world. Rapidly changing theories regarding the place of this element in nutrition are discussed.

Another chapter deals with manganese in soils and in plants. Deficiency symptoms in different kinds of plants are discussed; foliar spray methods of correcting deficiencies are also described.

Three of the nine chapters of the book are written by authors in countries other than the United States. "Grassland Agronomy in Australia" covers many phases of plant and soil science in rela-

tion to pasture improvement in that country. Additions of phosphates and trace or minor elements are particularly emphasized. It would seem that some information regarding the phosphorus content of Australian soils would add greatly to a reader's knowledge of the soils of that country.

Readers should particularly welcome the chapter on atomic energy and plant sciences prepared by the U. S. Atomic Energy Commission. Many experimental developments in the field of atomic science are reviewed. The national program of research in plant sciences is summarized in three tables: one table lists the projects under way in national laboratories and totally supported university projects; another lists the partially supported research in soils, fertilizer, and plant nutrition at various institutions; and a third table lists projects in supporting subjects such as biochemistry and genetics.

Vegetation control on industrial lands is written by an author in industry. This excellent chapter could be of even greater value to agricultural readers if a few

more references to the work of agricultural institutions were included.

A chapter on the soil and vegetation of forests covers 69 pages, and is indeed a miniature monograph on the subject.

Advances in Carbohydrate Chemistry

Vol. 7. C. S. HUDSON, M. L. WOLFROM, and S. M. CANTOR, editors. ix + 370 pages. Academic Press Inc., New York, N. Y. 1952. \$7.50

THIS newest volume, like its forbears, should be useful for those who are unable to keep up with all of the original research coming out in the various phases of carbohydrate chemistry. It is, again like its predecessors, composed of very complete and authoritative reviews of limited parts of carbohydrates and each chapter is well endowed with bibliography and references to original research.

The reviews of fructose, psicose, sorbose, and tagatose, and of the 2-amino sugars cover subjects that have not been adequately treated before. Modern

Valuable REINHOLD Books

#1 ELEMENTS OF FOOD ENGINEERING, Vol. I

By MILTON E. PARKER and E. H. HARVEY, *Illinois Institute of Technology*, and E. S. Stahler, *Wahl-Henius Institute*

Food technology is integrated with the principles of chemical engineering for the first time in this important new book. It outlines the origins, vital properties and classifications of foods, the extent of the industry, the significance of the engineering factors, and includes a penetrating discussion of refined foods processing.

1952 • 390 pages • \$8.75

#2 STARCH

Its Sources, Production and Uses

By CHARLES A. BRAUTLECHT, *Chemical and Industrial Consultant*, *Professor Emeritus, University of Maine*

This invaluable new book is the first complete survey of the subject ever published. It discusses such important aspects as microscopic characteristics of industrial starches, the economics of various plant materials, technology, specifications, physical and chemical characteristics, methods of analysis and uses. New processes and equipment are described in unusual detail. Although major emphasis is placed on potato starch, latest information on such other starch sources as corn, sweet potatoes, tapioca, wheat and rice is also included.

1953 • 400 pages • \$10.00

#3 OUTLINES OF FOOD TECHNOLOGY

Second Edition

By HARRY W. von LOESECKE, *U. S. Department of Agriculture*

A basic picture of present-day food technology covering the latest advances in handling raw materials, processing, equipment, machinery, packaging, preserving, storing and marketing all types of foods and food products.

Includes descriptions of such recent developments as the role of electronics, dehydro-freezing, the use of ethylene in fruit preparation, quick-freezing techniques, homogenized milk, etc.

1949 • 583 pages • \$7.50

#4 ALKALI SOILS

ACS Monograph No. 111

By W. P. KELLEY, *Professor Emeritus, University of California*

Dr. Kelley's researches are exhaustive and they provide a badly needed basis for dealing with the widely important problem of alkali soil. The book covers the problem and its solution in terms of ion exchange. Comparisons are drawn between alkali conditions in the western United States and in Russia where much work has been done on the same subject.

1951 • 168 pages • \$5.50

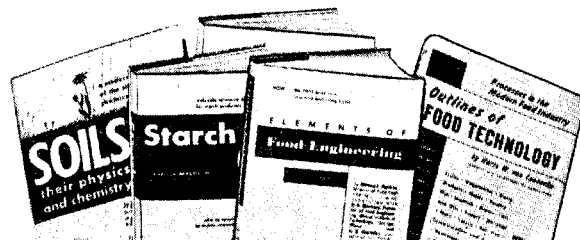
#5 SOILS: their physics and chemistry . . .

By A. N. PURI, *Director, University Institute of Chemistry, and Director, Field Research Station Trust, Lahore, India*

This book is an important contribution to the work of all scientists the world over who are engaged in the major problems of studying soils and improving their yields.

It unifies a wide variety of data, much of which is the result of the author's own experiments. The chemistry of soils is reduced to the chemistry of acids and bases and the soil-water system to a solution of soil acidoids and saloids. The soil solution is subject to the laws of acid-base equilibrium. Results of the highest practical importance may be realized from this approach to the problems of agriculture and from the comprehensive theory presented in this book.

1949 • 570 pages • illustrated • \$9.50



Mail this FREE-Trial Coupon TODAY

REINHOLD PUBLISHING CORPORATION, Dept. M-500
330 W. 42nd St., New York 36, N. Y.

Ship me books circled below for free examination. Within 10 days I will return any with which I am not completely satisfied and pay only for those I wish to keep.

#1 #2 #3 #4 #5

Name

Address

City Zone State

SAVE MONEY: Enclose payment now and we pay all postage charges. In N.Y.C. add 3% sales tax. Same return privilege with refund guaranteed.

ideas of stereochemistry and ring configuration were used to account for the peculiar properties of the 1,6-anhydrohexofuranoses in one fascinating chapter.

Dairy Engineering

ARTHUR W. FARRALL. xvii + 477 pages. 2nd ed. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., and Chapman & Hall, Ltd., London, England. \$6.00. Reviewed by H. A. TREBLER, National Dairy Research Laboratories, Inc.

THIS excellent book is in its second enlarged edition, proving that it is definitely filling a need as an elementary textbook for students and operators concerned with the purchase, operation, and maintenance of processing and auxiliary equipment in the dairy field. The strength of the book is now, as before, in the clear and simple discussion of the mechanical and maintenance features of equipment which is well supported by a good selection of illustrations.

As might possibly be expected in these days of extreme specialization, the author is in need of a well-informed collaborator in the borderline fields of chemical and sanitary engineering and chemistry. For instance, the rather misleading term of "detergent" frequently used by old-timers in the industry to designate specifically a dairy cleaning compound con-

taining gritty material is rapidly being discontinued. Also, the use of barium salts for boiler water treatment in plants that use steam in direct contact with foods or food contact surfaces is inadvisable because of high cost and toxicity. No mention is made of the general use of reducing agents, such as sodium sulfite, in boiler waters to remove the last traces of oxygen. It would be difficult to figure heat transfer with the formulas as printed on page 93 or to run B.O.D. tests with oxygen-free dilution water.

However annoying these many minor mistakes in borderline fields may be to the initiated, they certainly do not detract too much from the general usefulness of the book for the purpose for which it is primarily intended and for which it can still be strongly recommended.

Beet Sugar Economics

R. H. COTTRELL, xiii + 379 pages. The Caxton Printers, Ltd., Caldwell, Idaho. 1952. \$5.00.

AN ACCURATE, even minute profile of the beet sugar industry is provided in this book. As a case history of an industry, it should be of interest, not only to chemists and technologists in the beet sugar industry, but to those concerned with the economy of the West and to food and agricultural scientists as well. In discussing the industry's problems,

NEW BOOKS

Cottrell stresses that the industry is a chemical one and is behind in its chemical research.

The book contains discussions on sugar marketing, nutrition of sugar, sugar legislation, and outlines the case for reliance on both continental and off-shore sugar.

The Comparative Biochemistry Of the Carotenoids

T. W. GOODWIN. x + 356 pages. Chapman and Hall, 37 Essex St., London WC 2, England. 1952. 50 s.

THIS is a comprehensive biochemical treatment of carotenoids which covers very well the research work and literature, up to its time of publication, to produce a valuable and readable treatise. A great deal of work obviously has gone into its preparation.

Information is presented systematically and effectively. The author discusses distribution of carotenoids in plants and animals with a review of the evidence for their biogenesis and functions. The problem is presented clearly, although the great amount of data and information prevents arrival at definitive answers. Readers who keep in mind the great difficulties involved in biochemical appraisal of the subject in its present state will find this work very valuable.

LOOKING FOR A POSITION?

Executives . . . Chemists . . . Chemical Engineers
Managers . . . Teachers . . . Sales . . . Research

An effective way to contact prospective employers in the chemical process industries is open to you through the "Employment Information" columns of **CHEMICAL AND ENGINEERING NEWS**.

Largest circulation of all magazines in the field; broadest industrial coverage—the weekly news-magazine of the chemical world—and with low cost for your announcements.

Send for rate schedule and a copy of "Here's Help."

CHEMICAL AND ENGINEERING NEWS

Employment Information

330 West 42nd St., New York 36, N. Y.

PLANT HORMONES AND HERBICIDES

NOW AVAILABLE IN BULK

a-Naphthaleneacetic Acid
a-Naphthaleneacetic Acid, Methyl Ester
b-Naphthoxyacetic Acid
Sodium *a*-Naphthaleneacetate
Sodium *b*-Naphthoxyacetic Acid
Trichlorophenoxyacetic Acid
Trichlorophenoxypropionic Acid

Your inquiries for these and other products are invited. Our facilities and services are available for contract manufacturing on a confidential basis.

Also Available

Agricultural Grade Sodium Molybdate
For Weed-killing Purposes
Sodium Trichloroacetate

Berkeley Chemical Corporation

Summit Avenue, Berkeley Heights, N. J.

AN AFFILIATE OF

MILLMASTER CHEMICAL CORPORATION

(sole selling agent)

11 WEST 42nd STREET, NEW YORK, N. Y.