

# NEW BOOKS

## The Vitamins. Vol. I

W. H. SEBRELL, JR. and ROBERT S. HARRIS. 676 pages. Academic Press New York, N. Y. 1954. \$16.50. Reviewed by C. A. ELVEHJEM, University of Wisconsin, Madison, Wisconsin

This volume is the first of a series of three volumes dealing with the known vitamins. A study of the first volume indicates that this is a most extensive attempt to cover the tremendous volume of literature on the chemistry and physiology of these compounds. The authors are to be complimented on undertaking this enormous task and it appears from the first volume that their approach is sound in every way. The vitamins are presented alphabetically which means that the first volume includes vitamin A and carotenes, ascorbic acid, vitamin B<sub>12</sub> and biotin. The remaining volumes will cover the 14 or 15 additional vitamins.

As the authors indicate, much of the historic material as well as clinical aspects have been omitted because the material has been covered in other publications. However, it should be pointed out that a large portion of the present volume deals with the deficiencies of the vitamins in animals and human beings. A new approach in this volume is that each contributor was chosen for his competence in a specific area and several workers were used for each vitamin. Twenty-one different contributors took part in the preparation of this volume and I believe everyone will agree that a more outstanding group could not have been selected. The material is well organized and is presented in very attractive style.

Each chapter starts with the complete nomenclature and formulae for the compounds to be discussed. Another important addition is a discussion of the industrial production of each of the vitamins. There is, however, considerable variation in the extent of this discussion.

For example, the information is given as to the extent of production and changes in price for vitamin A and vitamin B<sub>12</sub> but this is not included for vitamin C and biotin. Each chapter is well documented with original references and an excellent author and subject index is included.

It is hoped that the remaining two volumes will soon be published since these volumes will be an indispensable and invaluable source of information for everyone interested in vitamins.



**Vitamin A produced by the Isler synthesis. The process, starting with citral, acetone, formaldehyde, and acetylene, involves 12 steps leading to the purification of the crystalline compound. Industrial production of crystalline vitamin A is discussed in "The Vitamins. Vol. I"**

## Results of 1953 Fungicide Tests

American Phytopathological Society. W. D. MILLS, Department of Plant Pathology, Cornell University, Ithaca, N. Y. \$1.00

The publication of these results is a continuation of the publication formerly provided through a supplement to Plant Disease Reporter, Plant Disease Survey, USDA. The project is now sponsored by contributions from the pesticide industry. Dr. D. A. Roberts, Department of Plant Pathology, Cornell University, will be in charge of the project during the current year.

## Institute of Seaweed Research, Inveresk, Scotland

The Report gives the titles and abstracts of 39 scientific papers published in 1953 on research work done by Dr. Woodward and his staff of 53 scientists and engineers in the field of seaweed ecology, microbiology, physiology, chemistry, and technology. Of particular interest are studies made on the uptake of radioactive fission products by seaweeds, on the amino acid composition of algal proteins, new and more efficient harvesting and drying methods of seaweeds, and further ensilaging experiments of brown algae which show a much more vigorous lactic acid fermentation than grass and can be ensilaged without inoculation or addition of fermentable carbohydrates.

## Principles of Sugar Technology

PIETER HONIG, Editor. xxii + 767 pages. Elsevier Publishing Co. 300 Park Ave. New York, N. Y. 1953. \$15. Reviewed by ROBERT H. COTTON, Huron Milling Co., Harbor Beach, Mich.

Dr. Honig has attempted an ambitious and worthwhile task: namely, to set forth the physical and chemical principles connected with the purification of cane juices. Cane sugar refining is a very old art. Of necessity technique preceded science. Today we have many technologists in the sugar industry and all too few scientists. Honig's work is an attempt to set forth many of the scientific factors involved in the production of sugar. He has drawn upon a wide range of world famous experts here and abroad; it is especially fortunate that he has drawn upon European sources which because of language difficulties would not ordinarily be available to the American sugar technologist.

The work deals rather exhaustively with the chemical and physical properties of sucrose and reducing sugars followed by a discussion of the nonnitrogenous organic acids, amino acids, proteins, lipids and the complex organic high molecular weight materials in sugar cane. In recent years there has been a great deal of discussion on the problem of measurement of color in the sugar industry. T. R. Gillett presents 70 pages on this subject in a practical, valuable fashion. Honig has given a discussion of the inorganic nonsugars. The remainder of the book deals with the technology of cane sugar production with an attempt by various authors to deal with the fundamental chemistry involved.

Honig argues for a more fundamental approach to modern sugar problems. He has performed a service in the presentation of this rather miscellaneous collection of articles by experts in the field. This work will be valuable indeed to anyone embarking on a thorough study of sugar technology. As Honig points out there are pitifully few people actively engaged in scientific sugar research today. Perhaps this work will stimulate efforts on this line.

It is to be hoped that future volumes of this work will contain the valuable knowledge developed by the U.S.D.A. workers under Harry Owens concerning the non-sugar constituents in sugar beets. It should also contain knowledge of present day commercial ion exchange operations as well as the laboratory work in Hawaii.