

# NEW BOOKS

## Chemistry and Methods of Enzymes

J. B. SUMNER and G. F. SOMERS. xvi + 462 pages. Academic Press, Inc., 125 East 23rd St., New York 10, N. Y. 1953. \$7.50. Reviewed by J. P. GREENSTEIN, U. S. Public Health Service, Bethesda, Md.

THIS THIRD EDITION of a successful introductory text on the enzymes has been revised and enlarged over the earlier editions. The book is intended for the graduate student level and is divided into six general parts. Part 1 consists of a chapter on the general properties of enzymes in which the distribution of this class of biocatalysts, the measurement of the kinetics of their action, and a brief outline of the methods for their preparation, is described. Part 2 comprises several chapters concerned with the esterases, carbohydrates, nucleases, nuclein deaminases, amidases, proteases, and hydrolases. Part 3 is concerned with the various enzyme systems involved in biological oxidations and reductions, part 4 with the transferases, and part 5 with the desmolases (decarboxylases and the like). Part 6 appears to be a rather general and miscellaneous section, and is concerned with such hitherto unclassified systems as rhodanase, isomerase, and racemase and with a general discussion of carbohydrate metabolism and related biological processes. A good author and subject index closes the book.

This book is of value if a general survey of the enzymes is needed by students whose primary interests lie in biology or medicine, for it provides within a relatively brief compass in awareness of the great breadth and depth of this extraordinary, rapidly developing area of biochemistry. It is almost axiomatic that any such text will, in many instances, be partially outdated by the time it publicly appears. For this reason alone, perhaps, it might have been preferable to emphasize the fundamental and enduring aspects of the subject at the expense of the more recent, factual observations.

Dr. Sumner himself is one of the great enzymologists of this age. Indeed, his isolation of crystalline urease is one of the classic landmarks of biochemical thought, for, by its compelling evidence for the protein nature of enzymes, it altered and refocused the thinking of an entire generation. Yet the reader somehow misses the point of the titanic struggle with the Willstätter school, the echoes and consequences of which still haunt the many laboratories in which enzymes are extracted from their bio-

logical matrices by methods sometimes based upon the principles of Sumner and sometimes upon those of Willstätter.

A touch of drama and an objective discussion of principles might remain longer with the student than the bald recital of innumerable, isolated biochemical reactions, for the drama and the principles endure, while the reactions change with almost bewildering frequency.

## Insect, Fungus, and Weed Control

E. R. DE ONG. 400 pages. Chemical Publishing Co., New York, N. Y. 1953. \$10. Reviewed by RICHARD WELLMAN, Union Carbide & Carbon Corp., Yonkers, N. Y.

THIS BOOK was designed to serve as a general reference to this field. It will be of most use to those whose work impinges on agricultural chemicals and who need to be kept abreast of the general field. No such compilation can, of course, be of much use to someone specializing in the field. Dr. de Ong has given very adequate coverage to his principal field, insecticides.

The information presented on the better established fungicides and herbicides is equally ably handled. However for 1953 there is not up-to-date coverage of the newer materials. For example, neither *p*-chlorophenyl dimethyl urea nor sodium 2,4-dichlorophenoxyethyl sulfate, two promising new herbicides, are mentioned in the book. As another example, Isothian Q-15, which the "Pesticide Handbook" no longer lists, and glyoxalidine derivatives are given equal space. The glyoxalidines are said not to be commonly used; this is not currently true in Northeastern United States. It is to be expected that minor errors will creep into any book and such an error is the use of "fungistatic" as a noun on page 11. The author's introduction of the term "biocide" does not seem to offer any advantage over the more common "pesticide."

There is compiled here a broad range of information on application equipment and physical properties of sprays and dusts, which adds to the book's usefulness.

## Aluminum and Aluminum Alloys in the Food Industry

Department of Scientific and Industrial Research, Special Report to His Majesty's Stationery Office, British Information Service, New York, N. Y. 42 Cents

THIS PUBLICATION is a general review of the application and associated prob-

lems of the use of aluminum in food processing and canning. There is a discussion of the various factors of corrosion of aluminum by the more routine chemicals of industry and in addition a consideration of the peculiar problems associated with corrosion by food products. There is also a presentation of various methods of protection, including metallic and plastic coatings.

## Chemical Additives in Foods; Safe Use of Chemical Additives in Foods

Food Protection Committee, Food and Nutrition Board, National Research Council, 2101 Constitution Ave., Washington, D. C. (No Charge)

THESE TWO PAMPHLETS are a collection of statements of the Food Protection Committee of the NRC which has as its objective to develop guiding principles and standardized procedures essential to safeguard food. The statements are of presentation of what the committee believes to represent the essential considerations necessary to judge the safety of chemical additives.

## Southern Weed Conference Proceedings

24 Pages. Agronomy Department, North Carolina State College, Raleigh, N. C. 1953. Paper cover. \$2.00

COPY OF THE PROCEEDINGS of the annual meeting of the Southern Weed Control Conference. Reprints of all the papers are presented. Most of these concern the effects of herbicides as weed control agents and there is also some consideration of the possible effects of the various herbicides on crops. The report of the research committee includes a discussion of efficiency of new herbicides.

## Water Soluble And Liquid Fertilizers

Bureau of Plant Industry, Soils and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture, Beltsville, Md. 4 pages

A SHORT BULLETIN issued by the Department of Agriculture for gardeners and others interested in an objective discussion of the soluble nutrient question. Includes 27 discussions of the general problems of spray feeding of nutrients and the relative efficiency and economy of this technique as compared with more traditional methods of fertilizer application.