

NEW BOOKS

Advances in Agronomy, Vol. V.

Edited by A. G. NORMAN. x + 422 pages. Academic Press Inc., 125 East 23rd Street, New York 10, N. Y. 1953. \$8.50. Reviewed by M. S. ANDERSON, Plant Industry Station, USDA, Beltsville, Md.

Volume V of this series is another valuable contribution to agronomic literature. It follows the earlier general pattern which means that widely varied topics are included within the broad subject of agronomy. The book opens with a chapter of 150 pages entitled "A Half Century of Wheat Improvement in the United States." The treatment is historical as well as present-day factual. This chapter is, in effect, a splendid monograph on the subject.

The discussion of soil organic matter expresses confidence that newer techniques already at hand will soon have intensive application in research. Among these are: chromatographic and electrophoretic separations, use of isotopic tracers, and ultraviolet and infrared spectrophotometry.

A chapter on the weathering of minerals in soils provides soil chemists an excellent review of the subject. In an opening sentence the authors state: "Present weathering of soil minerals remains the major source of nutrients used by crops, for which the vast chemical fertilizer industry is but a supplement."

A chapter is contributed from Canada covering both horticultural and field crops, and their relation to the national economy.

It is a matter of interest that the treatment of soil management for conservation and productivity is a contribution from Camp Detrick, U. S. Department of Defense. Factors affecting soil structure have a prominent place. Systematic rotation of cultivated crops with grass-legume mixtures is a well-known yet effective means of maintaining favorable structural conditions in cultivated soils.

Refining of Oils and Fats

A. J. C. ANDERSEN. 204 pages. Academic Press, Inc., New York, Pergamon Press, Ltd., London. 1953. \$7.00. Reviewed by T. H. HOPPER, Southern Regional Research Laboratory, USDA, New Orleans, La.

This book presents a general survey of the principles and practices employed in the refining of oils and fats for edible purposes, authenticated by 127 refer-

ences to journal articles, monographs, and patents, mainly of American, British, and German origin. Nearly one-half of the references are to American sources.

The description of the removal of fat-insoluble and fat-soluble impurities is arranged logically, presented in a perspective rather than in a detailed manner. Only incidental reference is made to any one individual oil or fat.

The first portion of the text describes methods and equipment for settling, filtration, and centrifugal clarification. The main portion of the text is devoted to a general description of the processes used or proposed for the removal of fat-insoluble impurities, which include those for de-gumming, de-acidification, bleaching, and de-odorization. The processes described include some which have been proposed but not adopted for reasons of processing economy or efficiency.

The text is illustrated by use of 95 figures, which include graphs of physical chemical data, pictures and line drawings of standard equipment, and layouts and flow diagrams of refineries.

The importance of process control is cited and discussed briefly. The reader is referred to standard works for analytical methods.

The work was originally planned as the section on Refining of Oils and Fats in a contemplated up-to-date English edition of Schoenfeld's well-known handbook *Chemie, Technologie und Verwendung der Fette und Oele*.

This book will be of value to those having need of general information on the processes involved in the refining of oils and fats. The references will assist those needing detailed information on individual processes and the application of them to individual oils and fats.

Richmond's Dairy Chemistry

Revised by J. G. DAVIS and F. J. McDONALD. Fifth Ed. Published by Charles Griffin & Co., Ltd., 42 Drury Lane, London WC2, 1953, 603 pages. 60s. Reviewed by H. E. O. HEINEMAN, Pet Milk Co., St. Louis, Mo.

The years since the previous edition of this book, in 1942, have seen a great many changes and advances in the chemistry of milk and milk products; therefore, this new and enlarged Fifth Edition, incorporating these more recent concepts, is indeed a welcome addition in this field.

New information published up to as late as 1952 is included. Some earlier work which is now obsolete, because of the development of newer and more accurate

techniques, or, which has been superseded by the results of more recent research, has been deleted.

For those readers who have not had previous acquaintance with this book, it might be advantageous to point out that it is primarily a working handbook for chemists dealing with dairy products. Bacteriological tests, nutritive values and related subjects have not been dealt with exhaustively, although a number of references on these subjects are given.

The book divides the subject into two parts, the first dealing with the general and theoretical aspects of the chemistry of milk and dairy products, and the second being devoted to analytical methods. The format of the book permits of easy reading and ready location of subject matter.

As is to be expected, the material presented is pointed in the direction of applying more nearly to the conditions and problems as they exist in England. Since these are occasionally at variance with those in our own country, in particular, standards of certain products and legislative aspects governing them, selected portions of the text may not be found of practical value here.

Throughout the text, the authors have thoughtfully provided a considerable number of authoritative references which enhance its usefulness. It remains an excellent text that can well be recommended to persons interested in the chemistry and chemical analysis of dairy products.

Keep America Growing... Quality Fruit

This 16-mm. color and sound film traces the cycle of the fruit industry from blossom time through harvest and distribution.

Copies of the 30-minute film are available on loan from dealers of the California Spray Chemicals Corp. or from the company's home office in Richmond, Calif.

Up from the Bed of A Desert Sea

This is the title of a 16-mm., full color, sound film which tells the story of the mining and refining of potash and potash salts from the ore face to finished product.

Running time is 27 minutes. Interested business, professional, or educational groups may arrange to borrow the film by writing to: Potash Division, International Minerals & Chemical Corp., 20 North Wacker Drive, Chicago 6, Ill.