

and Waxes;" by the same author, "Special Characters and Modes of Examining Fats, Oils and Waxes;" E. R. Bolton, London, England, "Butter Fat;" George A. Reitz, Philadelphia, U. S. A., "Lard;" Glenn W. Pickard, Minneapolis, U. S. A., "Linseed Oil;" H. E. Cox, Newport, England, "Higher Fatty Acids;" Elbert C. Lathrop, Philadelphia, U. S. A., "Soaps;" J. W. Lawrie, Washington, U. S. A., "Glycerin;" Augustus H. Gill, Boston, U. S. A., "Wool Fat, Wool Grease, Suint and Degras;" John Addyman Gardner, London, England, "Sterol Alcohols."

The number of tables has been considerably increased and wherever possible they seem to have been brought up to date. The bibliography has been treated likewise. At the end of the chapter devoted to glycerin is found a very extensive table of physical constants for glycerol and its solutions in water. The bibliography of the 40 sources quoted is listed in each case in tabulated form. This chapter contains 90 pages, an increase of 59 over that in the former edition. Detailed descriptions for all analytical methods are given as well as some very excellent cuts descriptive of necessary apparatus.

The same increase of material is noted in the chapter on soaps. A short résumé might not be out of place in pointing out the thoroughness of the revision. It will also show how valuable and necessary the volume will be for those whose work calls only for occasional examinations and analyses pertaining to soaps. Following upon an introduction treating of "general properties," "commercial varieties of soap and their manufacture," one finds the very comprehensive methods of analyses approved by the special committee of the A. C. S. which include not only the ordinary ingredients and fillers but methods for detection and estimation of such "special" components as borax, hydrocarbons, phenol, sugar, etc. Complete and satisfactory tabulated specifications have also been included.

Many of the great variety of vegetable and animal oils that have found industrial application during recent years have been included in the chapter on oils. The same is true of the fats.

All in all, as stated above, the book should have a place on the shelf of every analytical chemist. It will be a wonderful help to the teacher and student interested in the topics discussed therein.

JEANNOT HOSTMANN.

Stevens Plant Anatomy. 4th Edition. P. Blakiston's Son & Co., Philadelphia, Publishers. Price \$3.50.

To make a textbook both scientifically instructive and yet interestingly readable is not always an easy task. In Stevens "Plant Anatomy" the author has successfully accomplished this. He has taken the extensive material at his disposal and arranged it in an interesting and logical sequence. With a great lucidity of description and with the aid of a large number of excellent drawings and diagrams, the evolution of the various physiological tissue systems from a primitive undifferentiated embryonic tissue is traced.

The first chapter starting with a treatment of the plant cell as structural unit is followed by chapters with the following headings: Differentiation of the Tissues, Secondary Increase in Thickness, Protection from Injury and Loss of Water, The Plant Skeleton, The Absorption of Water and Minerals, Transport of Water and Soil Solutes, Intake and Distribution of Gases, Construction of the Plant's Food, Transport of Food, Storage of Food and Water, Secretion and Excretion, and Reproduction. At the end of each chapter suggested illustrative studies, bearing on the material covered, are given.

Those mooted questions of botany, the solution of which have been arrived at or approached, such as the genesis of the plastids, the constitution of chlorophyll, the structure of the cell wall, the construction of nitrogenous foods, the ascent of water and the operation of the stomata, are given due consideration in the present revision.

That portion of the book dealing with microtechnic has been added to and modified particularly in the chapters on the Preparation of sections, Plant Products and Reagents and Processes.

The index is exceptionally complete.

M. DITTMAR.

Poultry Diseases. How to Prevent or Cure Them. By Henry Gray, M.R.C.V.S. 138 pp. The Bazaar, Exchange & Mart. London. 2s.

During recent years there has been no authoritative work on this subject, either in the United States or Great Britain, and for that reason the book is welcome. It is not intended to be an exhaustive treatise on diseases of poultry but to act as a guide to those looking for reliable information. Most of the facts given are drawn from results of nearly forty