

tire harmony with the general view of agricultural chemists throughout the world.

Chapter IX, on the constitution of plants, deals with this subject in the usual manner. The value of the chapter consists in bringing into condensed form the more important principles relating to plant composition and especially with relation to the constituents which are withdrawn from the soil in the building of plant tissue. Chapter IX is devoted to the physiology of plant growth, and Chapter XI treats of crops in general and their relations to the farm. Chapter XII, as before stated, is related mostly to animal physiology.

The article on foods and feeding is a convenient summary of the matter contained in larger works on that subject, such as those of Henry, Armsby and Ware.

The articles on milk and milk-products are of special value to those engaged in the dairy industry.

The chapter on insecticides and other miscellaneous articles is also useful to the practical farmer.

While this little work does not pretend to contain anything original either in matter or arrangement, it gives, in a condensed and easily comprehensible form, the essence of the lectures delivered to agricultural students. Its doctrines are sound and the illustrations are for the most part apt. It is hardly a technical book, though somewhat too technical for the practical farmer, but will prove of use both in the classroom and on the farm.

H. W. WILEY.

AMERICAN HANDY BOOK OF THE BREWING, MALTING, AND AUXILIARY TRADES. BY ROBERT WAHL, PH.D., and MAX HENIUS, PH.D. Second Edition. Wahl and Henius, Chicago, publishers. Price, \$10.00 net.

This book of 1266 pages is divided into thirty-four chapters and an index. The first fifty pages are devoted to arithmetic and contain convenient tables of squares, cubes, and logarithms. Algebra, disposed of in the next five pages, is followed by chapters on mensuration, weights, measures, physics, mechanics, elements of machinery, power, transmission of power, steam-engines, refrigeration, pumps, brewery buildings, and a short chapter on chemistry. The matter presented in these chapters is introductory, and details are rigidly avoided, often at the expense of clearness. Thus the

explanation of the composition of water given on page 386 would also be true if the formula were $H_{24}O_{12}$.

However, this is a minor objection considering the scope of the book and the purpose of the authors to make it "handy" for brewers, malsters and related artisans.

Brewing and malting are excellently and quite exhaustively discussed in thirteen chapters. The skill with which these complicated arts are treated is highly commendable.

A short chapter on lubricants, several chapters follow on the legal relations of the brewer, on beer dietetics and economics, and on miscellaneous matters. At the back of the book are extended bibliographies and a dictionary of technical terms.

The order of treatment of the various subjects might be improved by bringing allied chapters closer together. This would overcome the inconvenience incident to referring from one part of the book to pertinent questions in far-off parts. As a whole, however, the work is admirably conceived and is well adapted to serve as a "book of ready reference." It is a pleasing feature of the "Handy Book" that although destined primarily for the brewing trade of America, it contains liberal references to the state of malting and brewing in other countries, particularly England and Germany. The historical sketch of the development of scientific brewing is well written and will be found interesting reading by those not familiar with it as the account of the growth of modern principles is very lucid and instructive. The book will benefit those members of the trade who may use it. C. GLASER.

CORRECTION.

The following line should be inserted at the bottom of page 334 in the March number.

This is a day of industrial, manipulative and chemical special-