book Reviews


This is an English translation of an up-to-date book by a Russian investigator. The book is well written; the literature is adequately covered and summarized with a critical evaluation of its significance. Over 900 references are listed. Emphasis, of course, is on the Russian literature; however, there is a good coverage of foreign literature.

The book has been conveniently divided into seven chapters on the following subjects: (1) the main stages in the history of soil humus study; (2) present-day ideas on the composition of soil humus and the nature of humic substances; (3) the biochemistry of the process of humus formation; (4) the importance of organic matter in soil formation and soil fertility; (5) the natural factors of humus formation; (6) characteristics of organic matter of the main soil types of the USSR; and (7) the changes in soil organic matter under different methods of cultivation.

The book follows somewhat the pattern established by S. A. Waksman in his book on humus, written in 1932. However, it is up-dated to cover present-day investigations. The work of Flaugher, Bremner, Mortensen, Stevenson, Prat, Krasilnikov, Niklewski, Khrishteva, Chaminade, and many others is covered. Soil humus is an area that has been badly in need of summarization with a critical interpretation of the findings, particularly of recent works. This the author has done well.

Annexation on the importance of organic matter in soil fertility is especially valuable in presenting some of the newer concepts of the role of organic matter in plant growth and the possible value of some organic substances in increasing osmotic pressure inside plants and in providing a greater resistance to wilting.

This book contains a rather extensive chapter on the characteristics of organic matter of the main soil types of the USSR and a short survey of the main soil types of the USSR, which may be of less interest to foreign investigators whose primary interest is in the subject of humus. The short chapter on methods of investigation is inadequate and limited in scope.

The book is well illustrated with pictures, figures, and tables. It is well indexed both in regard to subject matter and authors. It is a welcome addition and will be valuable as a reference in soil microbiology and related courses concerned with the nature of soil organic matter.——T. M. McCalla, Research Microbiologist, Northern Plains Branch, S.W.C.R.D., ARS, USDA, Lincoln, Nebraska.


This latest revision of a standard text and reference book definitely establishes it as the most reliable single volume on general animal nutrition. Adequate references are listed at the end of each chapter and the authors have conveniently cited in footnote form some of the more pertinent and classical research reports. Similarly, footnote comments are made about several of the leading investigators who have made major contributions to the science of nutrition through the years. This offers the beginning student of nutrition the opportunity to become acquainted with these men and their work.

The 17 chapters are conveniently divided into four parts as follows: I. General Bases of Nutrition; II. The Nutrients and Their Metabolism; III. The Measurements of Body Needs and Feed Values; IV. Nutritive Requirements of Body Processes and Productive Functions. In the first two sections an attempt is made to relate biochemistry and animal nutrition. Discussions of carbohydrate and protein metabolism in the rumen have been enlarged and improved. In the chapter dealing with minerals, the discussions of calcium and phosphorus, zinc, chromium, bromine, selenium, and fluorine have been revised most extensively. The chapter covering non-nutrient growth stimulators such as antibiotics, hormones, enzymes, etc. has been brought up to date.

Discussions and illustrations concerning the new developments for feces and urine collection and the study of energy metabolism of grazing animals are presented.

As in past editions the appendix includes tables of the N.R.C. requirements (condensed) for swine, poultry, dairy cattle, beef cattle, and sheep. The authors have succeeded in making this book palatable as a text-book and quite useful as a reference book for those interested in knowing and fulfilling the requirements of animals.——B. R. Baumgardt, University of Wisconsin.


This new journal, first published in September 1961, will consist of articles concerning all aspects of plant radiobiology but will be primarily concerned with the effects of ionizing radiation on plants or plant structures. It will also be concerned with the technical aspects of specialized apparatus and installations, and new techniques in the use of isotopes as radiation sources. There will be articles on radiation damage at all levels of physiological organization and representing such fields as biochemistry, physiology, cytology, genetics, plant breeding, morphology, ecology, and food technology.


This new journal is intended to cover research on all aspects of pure and applied plant biochemistry. It will provide a forum for the publication of papers from all parts of the world on every aspect of plant biochemistry, especially those which have as their basis a deeper understanding of the factors underlying the development and differentiation of plants and the chemistry of plant products. Both original papers and reviews embodying the results of extensive investigations will be accepted, in English, French, or German.


This book provides an introduction for those who are not acquainted with deserts and a great deal of information for those who may already be familiar with one or more of the dozen principal deserts of the world.

"The desert is man's future land bank, offering eight million miles of space for human occupation. It is a wondrously rich bank, which may turn green when man someday taps distilled sea water for irrigation. When this occurs it will be one of the greatest transformations made by man in his persistent and successful role in changing the face of the planet."

The book is 196 pages in length and includes 185 photographs and drawings, 64 in color. The appendix includes a bibliography.


This is the only history of English agriculture that has achieved the status of a classic, now incorporating new material bringing it up to date for the modern reader. The importance of the subject and the authority of its treatment make the book a necessity for studying the history of England and the history of farming alike. The text and the introductions together will do much to reinvigorate the study and understanding of this oldest of all industries, in England and elsewhere.

The two introductions cover English farming "before 1815" and "after 1815." The 23 chapters begin with The Manorial System of England, and the Break-up of the Manor: 1300-1485, and go through the Technical Progress Since the War (World War I). The times and works of famous political and agricultural leaders and innovators, such as Elizabeth I, James I, the later Stewarts, Jethro Tull, Robert Bakewell, Arthur Young, and others, are described and evaluated in detail.

Ten appendixes give a wealth of information, including a Select List of Agricultural Writers Down to 1700, The Poor Law, The Corn Laws, and many agricultural statistics covering periods from 1768 to 1935.

All agriculturists will find this book an indispensable factual and philosophical background for the understanding and improvement of modern farming in all parts of the world.