Book Reviews

RADIOISOTOPES IN BIOLOGY AND AGRICULTURE
Principles and Practice

This is an admirable volume containing a wealth of information and advice for those investigators in biology or the agricultural sciences who may be considering experimentation involving radioisotopes. The author takes a realistic viewpoint. He is not an evangelist advocating the adoption of radioisotope techniques as the panacea for all investigational difficulties in these fields. Through examples drawn from diverse fields he has attempted to explain the advantages and disadvantages inherent in the use of radioisotopes, their possibilities and their limitations. Later chapters deal with such topics as the practical problems of health physics, the facilities required for work with plants and animals, the characteristics of selected isotopes most likely to be useful in biological studies, autoradiography, radioactivation analysis, and auxiliary methods such as paper chromatography and ion exchange. The book concludes with a glossary of selected terms in nuclear science and a summary of radioisotope preparations available from the Oak Ridge National Laboratory.

The book is somewhat uneven with respect to details of procedures, and the reasons for the author’s choice of procedures described fully are not always apparent. In many cases it is probable that the selection was somewhat arbitrary, but in keeping with the objective of supplying sufficient illustrative examples so that an investigator can determine the suitability of a particular procedure to his particular problem and if it is within the scope of his facilities and experience. Applications in soil science and plant physiology are perhaps less well covered than those in some other areas. Even so, this book should be of great value to soil and crop scientists contemplating work involving radioisotopes, and particularly if their problems lead them beyond the rather well-worn paths of P°. — A. G. Norman.

CLIMATES IN MINIATURE

This small book is primarily a record of observations and results of experiments by the author in his garden during most of his life. He emphasizes the temperature component of microclimate in relation to habitat of some common plants, insects, and animals. The book is not intended as a scientific treatise on microclimate but rather as an introduction to an interesting hobby. The author disclaims professional competence in the subject but it is obvious that he is familiar with some of the literature, has keen powers of observation and an inclination to experiment. Agronomists will find the book interesting and stimulating even though they might be unwilling to accept some of the author’s conclusions. — R. J. Garber.

CONTRIBUTIONS TO PLANT ANATOMY

As stated in an introductory biographical sketch of Professor Bailey by Elso S. Barghoorn, “it is the purpose of this volume to draw together and to make more readily accessible certain selections of Professor Bailey’s work which are representative of the breadth and depth of his scientific interests, and also to make better known among students of plant life the many facets of his personality as a botanist and as a scientist”. The book is essentially a selection of the published papers of the author made by the author himself and “arranged to illustrate successive attempts between 1909–1953 to bridge gaps between Plant Anatomy and other fields of scientific endeavor”.

The 20 chapters of the book, each a published paper of the author, are grouped into 8 parts, namely, I, Cytology and Ontogeny, II, Biochemistry and Biophysics, III, Phylogeny, IV, Taxonomy, V, Entomology, VI, Paleobotany, VII, Wood Technology, and VIII, Cooperation in Scientific Research. There is a bibliography consisting of 113 of the author’s papers published between 1909 and 1953. There is also a 6-page list of references to the work of others, an index of plants and animals, as well as an author index and a subject index.

The volume will stand as a permanent monument to Professor Bailey although it represents only a very small part of the excellent contributions of the author to plant anatomy.—H. W. Popp.

MENTION

The New Grassland–Livestock Handbook, 1955 revision by the Joint Committee on Grassland Farming, Norman, Okla., the University of Oklahoma Press. More than 50 specialists from state experiment stations, cooperating professional organizations, and industries serving agriculture have contributed to this handbook. Its 48 pages cover the following topics: Grassland for long profits, establishing a grassland program, pasture: foundation of the grassland program; hay, grass silage, crop processing containers and storage structures, and machinery.


A Simplified Handbook on Soils, Phosphates, and Mixed Fertilizers, by Vincent Sauchelli, Director, Agricultural Research, Davison Chemical Co., Division of W. R. Grace & Co., published by the company, Baltimore, Md. This 32-page brochure deals with fertilizer chemistry in lay terms and is designed to give in simple, non-technical language practical information on soil fertility and crop nutrition. Included are soil moisture supply, crop water requirements, how plants feed, chemical fertilizers, plant constituents, plant nutrients, humus, soil amendments, trace elements, use of fertilizers, and other topics.

Manual of Plant Breeding (Handbuch der Pflanzenzüchtung) in German, Berlin and Hamburg, Verlag Paul Parey. The first monthly issue of this second edition of the standard work appeared in June 1955. It will be published in six volumes: I, Principles of Plant Breeding; II, Breeding of Cereals; III, Bulbous and Root Crops; IV, Forage Crops; V, Special Crops; and VI, Fruit, Vegetable, Vines, and Forest Tree Plants. H. K. Hayes, University of Minnesota, assisted the editors in soliciting U. S. contributors among whom are the following: