BOOK REVIEWS

Pathogenic Root-Infecting Fungi

This volume is a sequel to Biology of Root-Infecting Fungi, by the same author, published in 1956 and reprinted in 1960. A wide variety of pathogenic and saprophytic fungi that infect roots are treated in eight chapters, as follows: (1) Introduction; (2) Unspecialized parasites; (3) Specialized parasites: vascular wilt fungi; (4) Specialized parasites: ectothrophic root-infecting fungi; (5) Competitive saprophytic colonization of substrates by root-infecting fungi; (6) Saprophytic survival of root-infecting fungi in infected or colonized host tissues; (7) Dormant survival by resting propagules of root-infecting fungi; and (8) Principles of root-disease control.

While there is some treatment of the saprophytic fungi, major emphasis is placed on pathogenic fungi involved in root infection. The chapters are well written but repeat much information that is found in other books and reviews on this subject. A number of references are included containing information from work published since 1960. The book is brief, factual, and contains information of particular value to biologists interested in plant-fungal interactions and to researchers who want a terse review.

It is relatively free of editorial mistakes and printing errors, printed on good quality paper in readable type, and contains a number of tables and illustrations, although only a few pictures are included of the various forms of plant-fungal interactions. An extensive bibliography and index are included.—T. M. McCALLA, Soil & Water Conservation Research Division, ARS, USDA, Lincoln, Neb.

Methods of Study in Soil Ecology

This book contains the 39 papers presented at a 1967 symposium attended by 102 scientists from 28 countries. The papers are grouped by subject matter into 11 chapters as listed below, with the number of papers in each chapter shown in parentheses: General Problems in Soil Ecology (3); Structural Aspects of Soil Ecosystems (3); Functional Aspects (3); Methods for the Study of Production (MFSP) by Soil Microorganisms (7); MFSP by Macrophytes (4); Soil Respiration (1); MFSP by the Soil Mesofauna (6); MFSP by Arthropods of the Macrofauna (4); MFSP by Root-feeders and Nematodes (3); MFSP by Earthworms, Enchytraeids and Molluscs (4); Soil Ecology in the Next Decade (1). Discussion by participants is reported following each chapter.

The individual papers themselves are quite diverse in scope and content, and no attempt to treat them singly will be undertaken. To group them very roughly, about one-fourth are of the type that use a broad over-view in their approach. Nearly all in this category are well written and should attract readers from many different specialty areas. This group of papers hardly appears appropriately included under the title carried by the book itself, but it is indeed fortunate that they are included. They, rather than the tightly circumscribed technical reports interspersed among them, challenge the thinking of those workers concerned with the structure and function of ecosystems and with obtaining an integrated view of soil ecology. Roughly another fourth of the contributions are review discussions of the merits and demerits of methods currently used for studying productivity by various groups of soil organisms. These papers fit very nicely under the general title and for the most part are written by individuals recognized for their competence in their own specialties. The remaining papers are largely individual research contributions of the type that commonly is encountered in technical research journals and perhaps they might better have been so published. Several of them add materially to the book in that they exemplify what can be done with some given method of study.

The mechanical errors that require pause for correct interpretation are not numerous. On at least one occasion the dictionary did give me pause—on p. 103, "dead microorganisms are not allowed to live long uncomposed in some soils." Many who have been looking forward to the appearance of this volume to provide them with a handbook of methodology may find themselves disappointed. Nevertheless students of soil ecology might well add this book to their library.—F. E. CLARK, Chief Microbiologist, USDA-ARS-SWC, Fort Collins, Colo.

Soil Map of France, Vichy Sheet, and Bulletin

The map sheet of heavy paper is about 1 m wide and bears the soil map of the Vichy feuille (40 x 56 km) and four index maps, also in color, depicting patterns of lithology, geomorphology, climate, and vegetation. The 62 cartographic units represent soils of eight classes: recent soils, slightly developed soils, vertisols, andosols, calcimagnesian soils, black soils, brown soils, and hydromorphic soils. The cartography is superb and congratulations are in order to the staff of the publishing group and to the printers. Locations are shown on the map for more than 200 number soil profile sampling sites, laboratory data for which are tabulated in the bulletin; particle size distribution data, organic matter percent, pH, CaCO3 %, CEC data, Fe % (total; mobile), available P2O5, bulk density and soil moisture parameters.

The text, covering (i) the setting, (ii) the soils, and (iii) soil management, is illustrated with 24 figures including aerial photographs, views of soil profiles and landscapes, and several geologic cross-section diagrams. Soil profile descriptions are presented in full for 16 soils, and references are cited for many more complete descriptions from the area.

This first in an ambitious series of quadrangles of the new soil map of France, with accompanying bulletins, sets a standard of excellence.—F. D. HOTT, Professor of Soil Science, University of Wisconsin, Madison, Wis.

Soils—Their Nature, Classes, Distribution, Uses and Care

This book is divided about equally into two parts. The first 142 pages consist of the following 6 chapters: The Nature of Soils, Factors that Affect Soil Formation, Classes of Soils, Distribution of Soils, and Uses and Care of Soils. The Appendix, Useful References, and Glossary part (130 pages) includes sections on the chemistry of the earth, soils of North Carolina, and a brief description of important soil series of the United States. Each chapter is essentially a summary of the subject available in more detail in basic soil texts. The material, which is written for the nonspecialist, includes many illustrations and examples. Questions and a word list for study are included at the end of each chapter and Appendix A. Appendix A, Chemistry of the Earth, consists of a brief introduction to general chemistry presented at the secondary school level.

Since this book was written for the nonspecialist it is doubtful that many readers of SSSA Proceedings will want to add it to their personal library. However, this book can be recommended as a supplementary text for courses in earth science and conservation.—B. F. HAJEK, Assistant Professor of Soils, Auburn University, Auburn, Ala.