BOOK REVIEWS

Soil Management in India

There is a very great need for a book on soil management applicable to Indian conditions. The book was sponsored by the Indian Council of Agricultural Research and the Fertilizer Association of India. The first three of the authors are experienced Indian scientists, the fourth is an American who has published several books on soils and is a Kansas State University—ICA team in India. This book is designed to serve primarily as a text for first or second year students in Indian agricultural colleges. It is simply written. A minimum of prediction and other fancy fences is used and a minimum is introduced in the text itself. This is probably advisable. As a result it is less rigorous than the average introductory college textbook.

The first 13 of the 24 chapters deal with basic principles and problems in soil management; the nature of the soil and the climatic cycles, soil testing, tillage, the role of organic matter, green manuring, fertilization, weed control, crop rotations, irrigation planning, and soil and water conservation. The remaining chapters deal with the specific problems which arise in managing soils for each of the more important crops grown in India, (rice, wheat, the millets (maize is included here), sugar cane, tobacco, oilseeds, grasslands, coconuts, arecanuts, tea, coffee, rubber, fruits, vegetables and jute). The authors have drawn their information largely from Indian publications. There is naturally and unavoidably considerable repetition especially in the last 11 chapters, for after all there are many principles of soil management which are applicable to many crops.

To one unfamiliar with Indian soils or agriculture, it gives a true impression of the wide range and diversity of each. While the average yields of most crops obtained in India are among the lowest in the world, there seems to be evidence, scattered but convincing, that with modern scientific methods, developed for and adjusted to the various soil and climatic conditions, yields can be raised from 4 to 5 times the present levels. This book should be of help in the struggle toward these goals. It contains in appendices: (1) vernacular names of common Indian crops, (2) conversion factors for the various units of measurement used in different parts of the country, and (3) definition of terms commonly used in the soil science literature. These appendices should enhance the value of the book as a reference, especially to readers outside of India.—Richard Bradfield, Cornell University, Ithaca, N. Y.

Greek and Latin in Scientific Terminology

This book focuses attention on the sources of our scientific names and how they are constructed. Soil scientists have not adopted a scientific nomenclature based on Greek and Latin for the kinds of soil, though in recent years a trend in this direction has been evident. Fragipan, Brunizem, Grumusol and Latosol are recently introduced terms using Latin roots, but not all are correctly coined. The author first explains why most scientists have adopted Greek and Latin as bases for their terminologies, and what makes for good and bad terminology.

He includes discussions of the Latin and Greek alphabets, pronunciation, inflections, declensions and conjugations. He shows how transliterations are made from Greek to Latin, and to English.

About half of the book consists of word lists including Latin and Greek prefixes and suffixes, and the words must commonly used to form the scientific vocabularies, particularly of medicine and biology. The true stems are distinguished by bold type, permitting the inexperienced reader to identify the part of each word that is used to form scientific names.

A final chapter treats the practical aspects of forming new words. The topics treated are: connecting vowels to be used; how to pronounce the words; when words can be shortened; common mistakes; formation of hybrid words, with stems from more than one language; and rules of scientific nomenclature from several sciences. A bibliography and a good index complete the book.

Soil scientists of the United States are not noted for their knowledge of the classics. This deficiency has interfered with their understanding of botanic and geologic names. Should soil scientists adopt a system of soil names coined from Latin and Greek, the lack of classical training will be a handicap. This book gives sufficient background information for a reader to understand many names and, if necessary, to coin new ones. It is unfortunate for soil scientists that most examples are medical rather than the more familiar geologic terms. Still, it is an excellent reference book that can be supplemented when necessary with good lexicons. It is a book that should be in the libraries of all soil scientists who are seriously concerned with soil classification and those concerned with the biological aspects of soils.—G. D. Smith, Soil Conservation Service, USDA, Washington, D. C.

Minor Elements and Their Effects on the Growth and Chemical Composition of Herbage Plants

This small mimeographed publication contains a wealth of information on its subject. Although it is not intended to be a complete review, it contains 347 citations. The discussion is rather sketchy, but many facets of each problem are mentioned. The appendix tables which show the concentrations of minor elements in various herbage plants as reported in the literature are perhaps the best feature of the publication. The publication will be most useful as a brief review for those not working directly in the field and as an introduction for those starting work in this field. Even the experienced worker, however, is apt to find mention of work with which he is not familiar.—H. F. Massey, University of Kentucky, Lexington.

Probleme de Pedologie (Problems of Soil Science)

In the sense that it does not treat one particular subject exhaustively, this publication is neither a symposium nor a textbook. It would be more adequately described as the Soil Science Proceedings of the Academy of the Rumanian People's Republic.

It is a bound issue of 34 scientific papers by 54 authors dealing with soil physics, chemistry, biology, fertility, genesis, classification, cartography, and technology. The papers are written in Rumanian and abstracted in Russian, English and German. The English translation of the summaries is fair; there are several inaccuracies, e.g., using a "stove" instead of an "oven" for moisture determination. Some of the titles are misleading in the sense that they make inferences which are not warranted by the data or results. However, this collection of scientific papers is worthy of wide circulation among soil scientists because it contains original experimental results and several detailed soil maps.

The following are some of the specific topics covered: soil moisture-texture relationships, classification of peats and mucks, content of Zn, Ni and Co in some Rumanian soils, methods of extracting Mn from Rumanian soils, interaction of elements in the emission spectroscopic analysis of soils, ammonification and nitrification processes in Rumanian soils, availability of nutrients under various crop and soil treatments, criteria for soil taxonomic units, soil maps of several areas, erosion mapping for agricultural planning, reclamation of saline and Solonetz soils, water balance formula for irrigation, and tillage-moisture relations in some soils.—G. A. Bourneau, University of Maryland, College Park.