BOOK REVIEWS

Resource Conservation Glossary

The 1976 Resource Conservation Glossary, published by the Soil Conservation Society of America, is an extensive revision of the 1972 edition. The glossary is designed to be of aid to all conservation professionals, students, administrators, and clerical personnel. The new edition contains over 2700 terms from 18 technologies, including agronomy, biology, conservation, ecology, economics, engineering, fish and wildlife management, forestry, geology, hydrology, land use planning, mining, pollution control, range science, recreation, soils, waste management, and watershed management.

The glossary was provided free to all members of the Soil Conservation Society of America in the July-August (1976) Journal of Soil and Water Conservation. It is available as a separate publication at the following prices: Single copy—$5.00, 2-9 copies—$3.00 each; 10-49 copies—$2.50 each; 50-99 copies—$2.00 each; and 100 or more copies—$1.50 each. The publication can be ordered from the Soil Conservation Society of America, 7515 N. E. Ankeny Road, Ankeny, IA 50021.

Corn Improvement, Seed Production, and Uses


In 1958, The Food and Agriculture Organization published Hybrid Maize Breeding and Seed Production authored by Robert W. Jugenheimer. Corn Improvement, Seed Production, and Uses is a rewritten and expanded version of this earlier volume. The opening section consists of six chapters covering the subjects of population and food dilemma, production practices, origin and evaluation of corn, genetics of corn, heterosis, and mutations. There are four subsequent sections comprising a total of 24 additional chapters which are titled: (i) Breeding Methods for Corn Improvement, (ii) Selection for Economic Characteristics, (iii) Development and Evaluation of Hybrids, and (iv) Seed Production, Processing, and Distribution. Each section provides coverage of a particular aspect of corn improvement, production, or use. The last section entitled, Seed Production, Processing and Distribution typically illustrates this as it contains eight chapters spanning 179 pages. The chapter titles include the comprehensiveness of the coverage: (i) Training Seed Technologists, (ii) Production of Hybrid Seed, (iii) Planning an Efficient Seedcorn Processing Plant, (iv) Harvesting, Processing, and Storage of Seed, (v) Marketing Seed, (vi) Foundation Seed Stock Organization, (vii) Seed Certification, and (viii) Policies and Legislation.

The book is well done. For example, a discussion of the development of inbred lines is supplemented with a pictorial demonstration of both tassel bag and bottle methods of hand pollination. Many of the chapters contain technical information that can be of immediate use to college-trained researchers. One of the best chapters in this respect is Chapter 15 which lists and discusses 22 leaf diseases and their symptoms. Many of these diseases are illustrated with photographs. The chapter also contains similar coverage of stalk rot, ear rot, and smuts. Chapter 16 which deals with insect resistance and tolerance is not as extensive but it is well written and useful.

The book is encyclopedic in its treatment, being 670 pages in length with little repetition among chapters. As must be the case with a volume discussing a subject with so many ramifications, some topics are covered only briefly. Some readers, for example, may feel that chapters such as 20 and 21 which deal with statistical methods and experimental designs could have been omitted since they are generally discussed and briefly treated. To this reviewer, they appear to offer the reader a generalized understanding of an important aspect of corn production that might otherwise be overlooked. Also, brief treatments of complex topics sometimes stimulates readers to seek more complete information.

Throughout the book the author's personal experience is combined with a very extensive bibliographical review-113 pages in length. The author has provided a reference which should be an aid to students and professional agriculturalists for years. There is also a 21-page alphabetical index. Organization of the book is good and the reader should be able to locate a particular topic of interest with little difficulty. The book should be a valuable addition to the bookshelf of the advanced student, agricultural professional or college-trained grower. It is also well suited as a textbook for the advanced undergraduate and graduate student, but the price may restrict the market particularly at the undergraduate level.—Richard L. Tabor, Agriculture Department, Central Missouri State University, Warrensburg, MO 64093.

Soils of the West African Savannah—The Maintenance and Improvement of their Fertility


If you imagine that the Tropical Zone is covered by lush rain forests, that its soils are invariably highly leached and acid, that burning the bush is altogether wrong, that phosphate immobilization is usually great and always irreversible, or, if on the other hand you are convinced that in the tropics lies the agricultural hope of the future, then you should study this book.

For a long while we have needed a monograph on misconceptions about the tropical environment. While this book is not addressed primarily to that subject, it does deal with many soils problems which must be solved before the full potential of the tropical climate can be brought to bear on crop production—problems about which some agriculturists, trained and experienced in Temperate Zone agriculture, have rather peculiar notions.

Shifting cultivation was developed by cultivators through centuries of trial and error to a stage where a kind of equilibrium with natural forces had been attained. Now population pressures are forcing changes upon the agriculture of the savanna. We do not know what kind of changes to encourage. After reviewing much literature (475 references) the authors lead us to conclude that there are big gaps in our knowledge of the soil resource and in our understanding about how it should be managed. This is not to discredit the workers of the past. The extremely complex and variable cropping systems employed have made relevant field experimentation difficult. Summarizing such diverse material is difficult also and makes for slow reading as well.

Much soil fertility research in West Africa—and in fact throughout much of the tropical zone—has been of an ad hoc kind which leads to the lament, "The fertilizer dressings recommended to farmers are usually those that have been established as the most economic in annual experiments, and their repeated applications under more continuous cropping conditions can lead to a soil impoverishment even of those nutrients that are applied." Ignoring attention to the need for a more settled approach to problems of fertility in the savanna, the authors have done a good service. We can only hope that their message will be given due weight by those who develop research strategies for the savanna.—ROBERT L. FOX, Prof. of Soil Science, Department of Agronomy and Soil Science, University of Hawaii, Honolulu, HI 96822.

The Agronomy of the Major Tropical Crops


Every professional person who is making decisions or conducting research, resident teaching, or extension education in or concerning the tropics, or who plans to do so, should have this book in his/her personal library. Dr. C. N. Williams, the author, is a lecturer in the Faculty of Agriculture at the University of Malaya.

The application of information presented here would have saved millions of dollars spent on projects that were not adapted to the tropics. Some of these were: the establishment of an ammonium nitrate plant in the middle of a rice-producing area in India; the attempt to grow peanuts in eastern Africa where there is not sufficient rainfall; the establishment of a sugar beet processing plant in a sugarcane-producing area in eastern Africa; the introduction of large-scale mechanization equipment in a surplus labor area of western Africa; the planting of rubber trees in the Amazon basin on a massive scale without knowledge of a serious disease; the statement by a world-wide administrator-in-authority that during a western African drought "nothing can be done until it rains"; and massive purchases of agricultural textbooks for tropical countries written for the United States.

Massive purchases of, The Agronomy of the Major Tropical Crops, if studied by decision-makers, should result in more applied appropriate technology in the tropics—the remaining frontier for the increased production of food, feed, and fiber.