BOOK REVIEWS

The Soybean
By A. G. Norman (Editor) Academic Press, New York and London. 1963. 239 pages. $6.00 (paperback)

This book is a welcome addition to the scientific literature on soybeans. It consists of four chapters or sections: Soybean Genetics and Breeding by Herbert W. Johnson and Richard L. Bernard; Physiology of the Soybean by R. W. Howell; Mineral Nutrition of Soybeans by A. J. Ohlrogge; and The Management of Soybeans by Jackson L. Carter and Edgar E. Hartwig. These four sections are updated and expanded revisions of articles originally published in Advances in Agronomy.

All of the authors except A. J. Ohlrogge, are scientists with the Crops Research Division, ARS, USDA. Dr. Ohlrogge is Professor of Agronomy, Purdue University. All have devoted many years of research to the soybean plant and are authorities in their respective fields.

The chapter on genetics and breeding will be of less general interest to soil scientists than the other three chapters. However, this chapter appears to be rather complete and well documented by many references.

The chapter on physiology takes the reader through the processes of germination, root growth and nodulation, vegetative growth, flowering, and pod and seed development. The effects of environmental factors and the metabolic processes involved during each growth period are fully discussed. Special attention is given to photoperiodism and nitrogen fixation.

The chapter dealing with mineral nutrition covers eleven elements: nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, boron, zinc and copper. Concentrations of the elements in the plant parts at pre-bloom, bloom, and pod-filling stages of growth are given. Rates of uptake, translocation or redistribution within the plant and the effects of fertilization on these concentrations are also topics covered. No attempt is made to relate these factors to yield as this is covered in the last chapter. The updating of this material was by the addition of an addendum covering the important contributions during the past year period, 1962.

For the practical agronomist the last chapter covering management of soybeans will prove most interesting. Here are covered such general topics as are frequently found in field crop textbooks. World production, soil and climatic adaptation, time and methods of planting, rotations, weed control, nutrient requirements, disease and insect pests is a partial list of topics covered.

The book should be of value not only to the agricultural scientist interested in this important crop, but useful to personnel in educational and action agencies such as state agricultural extension services, the Soil Conservation Service, etc. Many soybean growers will find this book useful.—D. A. Hinkle, University of Arkansas, Fayetteville, Ark.

The Hydrological Role of Forests

The book under review is largely a compilation of findings made during the past 50 years by soil scientists and foresters in different parts of the world. An account of many years observations, conducted by Russian students of soils and vegetation, is of major interest to an English-speaking reader. As should be expected in dealing with the hydrological role of forests, conclusions present questionable generalizations of local experiences. Most of these must be excused because of the complexity of the problem, the chameleonic nature of the relationships, and our comparatively limited knowledge of the subject. The author's criticisms of conclusions based on Ootsky's lifetime long research may illustrate the uncertainties permeating our present credos. Undoubtedly, the specialists interested in water-vegetation relations will find this text valuable, as well as results that should be regarded critically.

The translation of Russian scientific literature, sponsored by the U. S. Department of Agriculture and the National Science Foundation, is a highly meritorious project which promises large savings of money assigned for research. Unfortunately, many of the translations published by the Israel Program leave much to be desired because they were made by people unfamiliar with the subject and technical terminology. Molchanov's monograph is one of the better accomplishments, for the translator, Prof. A. Gourevitch, probably is one of the best men that were available for the translation of this particular monograph. He made an earnest effort to accomplish his task satisfactorily. The assistance of an editor familiar with specific English terminology and a few days of additional work would have produced an excellent volume! In its present form, the book is contaminated with embarrassing mistranslations not permissible in technical publications.

An attempt of the translator to anglicize the Latin botanical nomenclature has introduced incomprehensible expressions, e.g. "false acacia" for black locust, "black pine" for lodgepole pine, and "meadow grass" for Kentucky bluegrass. Neither "long moses," nor "foxberry" are known to the American taxonomists. The occurrence of Abies pectinata on the American continent or Pinus ponderosa in the eastern United States is an act of actinization restricted to the imagination of either the author or the translator.

The misspellings of the non-Russian authors are numerous: The Americans Hursh and Isaak appear in the text as Hurch and Isaak; the Czechs Kubek and Lhota are listed as Kuban or Magan and Lhota or Lgota; the Swiss Burger is spelled Bürgler, etc. These errors could have been easily eliminated by a brief visit to any fair-sized library. Neither would it take much time to convert the metric measurements into their English equivalents. Also, it would be more useful to correct the author's omissions, instead of adding empty footnotes, such as: "Meaning presumably 'rate', but per what area is not indicated." (p. 92)

The most objectionable is the misuse of the English silvicultural or soil scientific terminology, such as "reserve" (volume or yield), "thickness" (density), "grade" (site index), "shoot" (sprouting), "head of water" (hydraulic head), "volumetric weight" (bulk density), "leafy trees" (hardwoods), "relevance of forest" (forest influence), "bogging up" (swamp development) and "areas of varying marshiness" (swamp types). A period in which cutover land is converted into a swamp is translated as "the time it takes a settling area to bog up." With all due respect to the beneficial effect of forest cover, it does not deserve the redundancy of the sentence: "Forest protects the soil by conserving it and by preserving and improving its properties..."

As has been suggested by Nikiforoff in his review of the translation of Glinka's text (SSSA Proceedings, 1964), the translator should not take upon himself the role of a self-appointed editor and make arbitrary modifications of the text. For example, there is little excuse in the translator's totally inaccurate interpretation of the Russian word "bor" as "sparse woods." In most cases, this term refers to dense pine stands of a very high site index. Still less justifiable is the use of this foreign term throughout the text in preference to the simple and appropriate English word—forest (Khrensonoki forest, etc.). The same is true of the Russian expression "zherniak" (zherednik) which is pole-sized timber.

All in all, translations including inaccurate and even misleading terminology fail to do justice to the authors of the original books, to their translators, and to the readers.—S. A. Wilde, University of Wisconsin, Madison.

Fertilizer Nitrogen—Its Chemistry and Technology

An authoritative book on the technology of manufacture of nitrogen fertilizers has long been needed. This book, Fertilizer Nitrogen—Its Chemistry and Technology, an American Chemical Society monograph, should be helpful in filling this need. Vincent Sauchelli is the editor and author of two chapters. The other eighteen chapters were prepared by an imposing array of specialists in their fields.

As in any book that consists of chapters by many authors, there is some lack of balance in the amount of detail accorded various subjects, as well as some duplication. The chapters on