FOURTH INTERNATIONAL CONGRESS OF SOIL SCIENCE

Transactions

The first of the four volumes of these transactions contains the general lectures by T. Wallace, H. H. Bennett, and L. Dudley Stamp, and all or part of 108 additional papers on the physics, chemistry, biology, fertility, and conservation of soils, including consideration of tropical, subtropical, and saline soils. The second volume contains general lectures by Richard Bradford and R. H. Scefield, and 79 other papers related to one or another phase of soil science. Volume three contains 45 more sectional papers, raising the total to 236. Volume 4 gives the discussions of the several sectional papers, the names of the committee members, addresses by C. H. Edelman, D. J. Hissink, and S. L. Mansholt, reports of discussions, conclusions of the sections, and list of official delegates and members. The 1,112 pages of transactions contain a great variety of technical material, which constitutes a good cross-section of the thinking of the soil scientists of the world. Delegates from 39 countries were registered. A report is given of the reorganization of the International Society of Soil Science, under the chairmanship of Charles E. Kellogg. The present officers are R. Tavenier, Belgium, president; F. Jurion, Belgium, vice president; C. H. Edelman, Netherlands, past president; and W. R. Domingo, Netherlands, secretary-treasurer. These transactions should be made available to every soil scientist. Membership in the International Society of Soil Science and attendance at the Congresses have great educational value. — Firman E. Bear.

ADVANCES IN AGRONOMY, VOL. III

Advances in Agronomy brings together in a single volume authoritative articles reviewing various fields in agronomy. It will be particularly welcomed because new developments are so diverse that few can keep well informed without the help of a book of this type.


The articles are well written and are well documented with references. This book will appeal to the specialist as well as to the general agronomist. — R. R. Robinson.

MOISTURE REQUIREMENTS IN AGRICULTURE

The author states the aims of the book in the preface as to (1) meet the need in colleges training engineers and technical workers in agriculture, and (2) prove a welcome companion and guide to a vast army of practical farmers, to general technicians in the field of agriculture, and to engineers located inconveniently far from adequate library facilities. "To meet the above aims, the book must necessarily be comprehensive in its treatment of the field. The material in the book has been selected on the basis of the author's teaching experience and consulting experience in agricultural problems. The material covers three phases of irrigation practice: (1) "soil-science relationships"; and (3) "crop-type relationships and irrigation farm management."

The comprehensive treatment of the engineering aspects of irrigation makes the book a useful reference for the agricultural technician and a useful text for courses in elementary irrigation engineering. The treatment of such engineering material as the flow and measurement of water is not too complicated for technicains and engineering students, but may be more complicated than many practical farmers would desire. The engineering discussion is somewhat out of date as indicated by an omission of important tools and techniques recently developed. For example, there is no mention of the land planer in the discussion of land leveling equipment.

The aspects of crop-type relationships and irrigation farm management as contained in the book are useful to all agriculturalists. Material offered on the water requirements of crops, irrigation of specified crops, and the administration features of irrigation provides useful information and viewpoint in collected form.

The treatment of soil-science and moisture relationships is inadequate. For example, the discussion of capillary potential and potential measurement is out of date (the latest reference is 1928). The discussion of such an important concept as "maximum capillary capacity" or the field capacity is unsatisfactory even to the point of giving instructions for the laboratory measurement of field capacity from undisturbed field samples that are in error.

Because of the comprehensive nature of the book, many details are omitted. The author states his awareness of this weakness in the preface with the hope that cited references will supply lack of detail. There are 268 references given at the rear of the book, but of these slightly less than one fifth are later than 1950.

The book does offer the advantage of problem sets at the end of most of the chapters together with good illustrative examples (Thompson, 1947). This is useful to both the teacher and the technician.

The principal value of the book is the inclusion under one cover of such a large amount of material relating to irrigation. The principal criticism of the book is the omission of many recent advances and the inadequate treatment of the soil-science aspects. — C. B. Tanner.

THE MOLDS AND MAN
By Clyde M. Christensen. Minneapolis, Minn.: University of Minnesota Press. 244 pages (illus.). 1951. $4.00.

There are but a few scientific books that provoke unsolicited comments. Such action is usually induced by the reviewer's indignation against a blundering author, rightful or otherwise; very rarely, as in this case, through an admiration of a writer's achievement.

The aim of the book is to give a general account of fungi and their impact upon us. In the introduction, the author gives an assurance to him "The study of fungi has been more than just a professional occupation—it has been an absorbing, enriching, stimulating adventure." This statement, practically equivalent to the declaration of fungi for fungus, is likely to be taken with a grain of salt by many of us who had less enthusiastic teachers of plant pathology. For how can anyone become infatuated with a creature like Puccinia graminis, whose reproductive mechanism are complicated by pycnospores, aeciospores, telepores, basidiospores, and other bosome details. Yet, after reading Christensen's account of the molds' sex life, the reader is inclined to agree with the author that fungi "have evolved some rather clever and effective variants of the standard boys-meets-girl theme" (p. 30).

As the pages are turned, the reader's attitude may undergo further changes, and his initial reaction of disgust and aversion, say, to the stinkhorn, is gradually replaced by a sense of respect for this "one of God's ill-smelling wonders" (p. 41).

The account of the fungi partnership with other organisms, plants, or animals, not only is enlightening, but leads the reader to contemplate upon the mystery and infinite wisdom of the universe. Aside from the fascinating description of the facts of symbiosis, Christensen's philosophical outlook is most intriguing. The knowledge of organisms, which as a team have assured themselves a variety of places in the sun, as well as in the shade, leads the author to conclude that in the plant and animal world "a rugged individualist is just a theoretical abstraction" (p. 40). In contrast to H. G. Wells, unfamiliar with mycorrhize, Christensen presents an awe-inspiring picture of the world to come, a world taken over by forest of pale, succulent, watery growths of giant mushrooms. In his opinion: "Thus would biological truth be given to the Biblical contention that the meek shall inherit the earth. . . . There is a good possibility that in the twilight of this world the forms of life predominating will be the fungi and