BOOK REVIEWS

Rhizoctonia solani: Biology and Pathology

This book contains 14 papers contributed by 21 authors representing three countries. The book is divided into three parts concerning Rhizoctonia solani: I, the organism; II, the saprophyte; and III, the pathogen. Part I includes: the first century of R. solani, taxonomy and nomenclature of the imperfect state of the species, and the perfect state, morphology and cytology of R. solani, and mechanisms of variation in R. solani. Part II covers: physiology of R. solani, metabolism of R. solani, and colonization and growth of R. solani in soil. Part III includes: types of Rhizoctonia diseases and their occurrence, the mechanisms and physiology of plant penetration by R. solani, pathogenesis and disease, epidemiology of diseases caused by R. solani, and control of Rhizoctonia and R. solani: special methods of study.

Much confusion has existed regarding positive identification of this important plant pathogen. This book provides some important guidelines and explanations of the literature to eliminate the confusion. All aspects of the organism are well covered and areas requiring additional research are delineated. Some topics are discussed several times, as often occurs in a symposium, especially one dealing with a specific organism.

The book is generally very well written and edited. Some excellent photographs and explanations are included. The type is easily readable and contains few errors.

The book should be of great value to the researcher interested in this organism, in its hosts or in allied areas. An extensive bibliography is included that will update the investigator through 1967.—L. F. ELIOTT, Microbiologist, Soil and Water Conservation Research Division, ARS, USDA, Lincoln, Nebraska.

Official Methods of Analysis of the Association of Official Analytical Chemists

Every 5 years since 1920, the Association has published the analytical methods resulting from its efforts in applying analytical science to consumer protection in the areas of agricultural commodities and public health.

As the primary publication of the AOAC, the 11th edition of this volume contains all methods of analysis approved through the 1969 meeting. The highlights of this edition include a range of new methods and participation. New methods are distributed in broad categories as follows: foods and feeds, 50%; drugs and vitamins, 23%; agricultural materials, 12%; extraneous materials, 9%; microbiological methods, 2%; and color additives, cosmetics, microchemical methods, and radioactivity, 4%. Included are new challenges of multireactant multiproduct methods, the first AOAC polarographic methods, and increasing use of gas chromatographic and atomic absorption spectrophotometric methods.

New international dimensions have been added in developing uniform methods of analysis. A number of refinements in the volume have been made, and a chapter on laboratory safety has been included. Eight “surplus” methods have been carried over from the last edition, and two new reference tables—“Density of sucrose solutions at 0-100°C and 0-70% in mg/ml” and “Volume factors for thermal expansion of sucrose solutions up to 100°C”—have been added. The Chemical Abstracts Service Registry Number is included in the index following each compound for which a method is given, allowing entry into the chemical information retrieval system of the Chemical Abstracts Service.—VC.

Soil Map of the Perpignan-Argelès/Mer (L24 and L25) Quadrangle (Carte pédologique de France)

This 18-color soil map, with marginal index maps (also in color) of vegetation, lithology, geomorphology and rainfall, and the accompanying bulletin with 18 figures and 31 tables, is a continuation of the series begun recently by the appearance of the Vichy (L15) quadrangle. The map is printed on unusually heavy paper. The Perpignan-Argelès/Mer quadrangle includes a narrow (12-mile or 20-km wide) strip of land along the Mediterranean Sea from the Pyrenees Mountains northward a distance of 40 miles (65 km). Elevations range from sea level up to 2,000 feet (600 m) in the karst massive on the north to 4,000 feet (1,250 m) in the Pyrenees. Under a Mediterranean climate with about 20 in (500 mm) of rainfall in 65 rainy days, 59°F (15°C) mean annual temperature, 335 to 275 frost-free days, a great variety of soils have formed; hydromorphic, sodic, ferralsolite (paleosols), brannified, calcumagnesian, alluvial, weakly podzolized soils, rendzinas, rankers, rockland, dune land. There are 27 soil profile descriptions and 75 tables of laboratory data on soil horizons. Land management recommendations include: irrigation overhead (11 days free from violent wind) in place of furrow irrigation; reforestation and control practices in vineyards to check erosion by water and wind; drainage and dealkalinization and desalinization of wetlands; and fertilization and liming of acid upland vineyard soils.—F. D. HOLT, Professor of Soil Science, University of Wisconsin, Madison, Wis.

Field Guide to Soils

This pamphlet represents the second of a 10-publication series in the Earth Science Curriculum Project which is sponsored by the American Geological Institute and supported by the National Science Foundation. It discusses the importance of soil to plant and animal life, the evolution of a soil profile, and the major kinds of soil in the USA. Among questions answered for student readers are: How is soil formed from bare rocks? How does it supply nutrients to living things? How does it absorb water that falls as rain? Why are some soils fertile and others not? Especially useful is a glossary of basic soil science terms.—VC.

Published by Dr. T. D. Biswas, Organizing Secretary, International Symposium on Soil Fertility Evaluation, on behalf of The Indian Society of Soil Science, Indian Agricultural Research Institute, New Delhi, 12. 1971. 1117 p. Illus.

In view of the importance of soil fertility in agricultural production, the “International Symposium on Soil Fertility Evaluation” is of great practical significance for a world frightened by food shortage and pollution. The Proceedings contain invitational and contributed articles intended for presentation during the symposium held in New Delhi, Feb. 9-14, 1971. The editorial board for publication of the proceedings consisted of: J. S. Kanwar, N. P. Datta, S. S. Bains, D. R. Bhumbal, and T. D. Biswas.

This volume contains the work of 213 contributors—110 articles classified in six broad groups, such as methods of evaluation of soil fertility, soil test crop response relationship, fertilizer crop responses, residual effect of fertilizers, micronutrient studies, and soil testing service. The organizing committee hopes to publish a second volume, to include the inaugural addresses, special lectures, and discussion on the papers presented. Orders and requests for additional information should be directed to the Honorary Secretary of the Indian Society of Soil Science in New Delhi.—VC.