BOOK REVIEWS


The book was originally published by the Academy of Sciences, U.S.S.R. in 1945. It presents an account of vital problems in nitrogen nutrition written with a thoroughness characteristic of all of Prianiushnikov's papers. A good share of the information is derived from the investigations of the author himself, initiated as early as 1892. Throughout his work, he pays particular attention to the parallelism that exists between nitrogen metabolism of plants and animals. His ultimate belief was that the practical solution of the nitrogen problem lies in the combination of both technical and biological means of soil enrichment.

The monograph comprises seven chapters, as follows: (1) History of the Nitrogen Problem; (2) The Forms of Nitrogen Available to Plants; (3) Nitrogen Metabolism in Plants and the Role of Ammonia and Amides; (4) Synthesis of Organic Nitrogenous Compounds from Nitrates and Nitrites; (5) The Assimilation of Free Nitrogen by Plants; (6) Relation of Plants to Ammonia and Nitrate Nutrition Depending upon the Reaction of Medium, Concentration of Solution, and Supply of Carbohydrates; (7) Significance of Accompanying Cations and Anions in Ammonia and Nitrate Nutrition. The bibliography of 160 references is international in scope.

BIBLIOGRAPHY OF THE LITERATURE ON THE MINOR ELEMENTS, VOL. II


Chilean Nitrate Educational Bureau has, in the Fourth Edition, Volume II of the Bibliography of the literature on the Minor Elements and their relation to plant and animal nutrition, abstracted and published papers on minor elements from July, 1947, to December, 1950. This is the twelfth in the series which began with the publication of the First Edition in 1935. The present volume contains 1,222 abstracts, representing 1,300 authors and co-authors, and covering 35 elements.

The abstracts and references are obtained from "Chemical Abstracts" and "Soils and Fertilizers" published by the Imperial Bureau of Soil Science, Harpenden, England. Because of the tremendous amount of papers published nowadays, such a review is of tremendous help to scientists engaged in agricultural and nutritional research.

The present review is organized and presented on the same high plane that the past reviews have been, and the Chilean Nitrate Educational Bureau is to be commended for its service to agronomists.—K. C. BERGER.

THE CHEMISTRY AND ACTION OF INSECTICIDES


An excellent book, especially strong in the section dealing with the toxic action of insecticides. Included are valuable statistics on production and consumption of various pesticides. It should be in the library of all persons working with chemical insecticides.—DONALD E. H. FEAR.

GRASSLAND AND GRASSLAND PRODUCTS


The book is essentially a reproduction of the Clive Behrens Lectures given by the author in 1948-49 and 1949-50 at the University of Leeds. An introductory chapter, the mineral and vitamin contents of grassland herbage, feeding value of herbage, growing and management, natural and artificial drying, ensilage and utilization of grassland herbage make up the 10 chapters. Selected references occur at the end of each chapter. Author and subject indexes are appended. The book will be of interest to agronomists and others concerned with grassland agriculture.—R. J. GARRER.

X-RAY IDENTIFICATION AND CRYSTAL STRUCTURES OF CLAY MINERALS

Edited by G. W. Brindley. London: The Mineralogical Society (May be obtained in U.S.A. through Prof. R. E. Grim, Department of Geology, University of Illinois, Urbana, Ill.). 345 pages (illus.). 1951. $6.00.

The book provides an authoritative account of the X-ray identification and crystal structures of clays and allied substances. The 14 chapters are contributed by a number of different authors who are experts in their respective fields, coordinated by the editor. The kaolin, montmorillonite, mica, chlorite, vermiculite, sepiolite, and attapulgite minerals, and oxides of iron and aluminum are included in the survey. This book includes data not only from X-ray diffraction but also from elemental, thermal, dehydration, and optical analyses. Changes of clay minerals by heating, solvation, and chemical treatments give more additional information characterizing clay minerals. All different concepts of crystal structures of clay minerals have been expressed; considerable space is devoted to interstratified layer silicates, and the two different kinds of layer silicates, dioctahedral and trioctahedral, are discussed thoroughly. A great deal of information is presented in the form of tables, including diffraction spacings and chemical analyses, which are valuable for reference purposes not only to those concerned with the study and applications of clays, but also to X-ray crystallographers generally. Students and teachers in the field of soils will want a copy of it.—M. L. JACKSON.

FARM CROPS JUDGING, IDENTIFICATION, AND GRADING


The senior author has had wide experience in training judging teams. His teams have consistently won high honors at both the Kansas City and Chicago International Crops Contests for the last 20 years.

The authors have assembled a wealth of information dealing with the major kinds of agricultural seeds and plants. They have drawn on many years of experience to present the material in an attractive and readable manner. The book is divided into three parts. Part I will be extremely valuable to workers engaged in training judging teams and setting up contests. It will also be of interest and value to agricultural workers in preparing exhibits for fairs. This section gives detailed score cards for use in evaluating crop seeds, and calculation of the contestants score and score tables.

Part II has to do with the identification of the major varieties and species of crop plants, weeds, and diseases associated with them. The authors describe in simple terms some 350 different varieties and species. Illustrations of both plant and seeds are given.

In Part III, the commercial grading of grain, hay, and cotton according to federal standards is presented in a simple straightforward manner.

All teachers interested in the welfare and development of young men should read Chapter I.—R. C. Potts.