Book Reviews

LABORATORY MANUAL FOR STUDENTS OF AGRONOMY

9th Edition

The ninth edition of this widely used manual has been released. This latest edition includes new chapters on world production and distribution of crops, dynamics of American agriculture and protein production as well as some revision of chapters used in previous editions.

The wide bound manual contains worksheets and exercises ideal for all laboratory phases of farm crops courses. The book has been drawn from the author's many years of experience in classroom and laboratory at the University of Wisconsin.

THE STORAGE OF SEEDS FOR MAINTENANCE OF VIABILITY


This publication was written to be of assistance largely to the scientist who wishes to keep a stock of valuable seeds in a viable condition for a number of years but also to others who seek information on the longevity of a particular type of seed and on its storage for a limited period of time. Its compilation was sponsored by the Commonwealth Agricultural Bureaus at the suggestion of the 1949 Conference of Plant Breeders organized by the Agricultural Research Council of Great Britain. The authors are associated with the Commonwealth Bureaus of Pastures and Field Crops and Plant Breeding and Genetics.

The book deals largely with the storing of small quantities of seed against loss of viability. Relevant information of general interest derived from the literature on the storage of large bulk of seed has been included but this type of storage has been dealt with but briefly as the authors felt it had already been covered by other publications.

Chapters of the book cover: longevity of seeds, factors affecting the viability of seed, relationship between the relative humidity of seed and equilibrium moisture, drying seed for storage, materials and methods for drying and storing seeds, changes accompanying the loss of viability dormancy and hardseededness in relation to storage, seed treatment in relation to storage, genetical aspects of seed storage, and longevity of and storage of seeds of particular plants. Storage of seeds of forest trees is not considered.

Plant breeders and seed companies handling experimental lots of seed should find this book informative and useful.

THE FUTURE OF ARID LANDS

Edited by Gilbert F. White, American Association for the Advancement of Science, Washington, D. C. 464 pp. 1956. $6.75 (AAAS member $5.75).

This book contains the papers and recommendations from the International Arid Lands Meetings in Socorro, New Mexico, April 26-May 4, 1955. These papers, written by 54 authors from 17 countries, cover the state of our present knowledge of arid lands and show the need for new research. The book is divided into five sections—The Broad View; Variability and Predictability of Water Supply; Better Use of Present Resources; Prospects for Additional Water Sources; and Better Adaptation of Plants and Animals to Arid Conditions.

Soil and crop scientists would have special interest in the following papers: History and Problems of Arid Lands; Climatology in Arid Zone Research; Water Resources in Arid Regions; Use of Water in Arid Lands; Geochronology and the Study of Arid Lands; Grazing Resources; Water Resources; Agricultural Use of Water Under Saline Conditions; Result of Using Arid Lands Beyond Their Capabilities; Land Reclamation and Conservation in Indian America; Demineralization of Saline Waters; Salinity Factors of the Bekaa Waters by Induced Precipitation; Adaptation of Plants and Animals; Better Adaptation of Plants to Arid Conditions; and Problems in the Development and Use of Arid Land Plants.

The summary of the general recommendations of the meeting are also included in the book. These papers and group recommendations point out the following guideposts for future development: a promising method for future collaboration across both national and disciplinary boundaries; specific areas of research where more work is needed; and suggested methods of thinking about future developments.

This book makes an important contribution to our knowledge of the use, misuse, and potentials of the arid land areas which account for about one-third of the world's land surface. Most of these arid lands are sparsely populated. With the world's expanding population making greater demands for food production and living room, the use and potentials of the arid lands will assume increasing importance in the near future. This book would not only be of great value to anyone intimately concerned with the problem, but would also be of interest to the casual reader.

METHODS OF CHEMICAL ANALYSIS FOR SOIL SURVEY SAMPLES


Mr. Metson of the New Zealand Department of Scientific and Industrial Research, Soil Bureau, has prepared detailed descriptions of the analytical methods regularly used by the Soil Chemistry Section of the Bureau for the examination of soil survey type samples. He brings out the point that chemical analyses made in connection with soil surveys must be restricted to comparatively few determinations, which will be useful in characterizing the soil series—such as pH; available phosphate, carbon and nitrogen; cations-exchange properties; soluble salts; and calcium carbonate content.

Although classed as a bulletin, this is really a full scale book that very adequately takes up the following topics: Chapter I, The Preparation of Soil Samples for Chemical Analysis; The Determination of the Moisture Factor; and the Determination of Calcium Carbonate. Chapter II discusses the Determination of Phosphorus and Sulphur. Chapter III, The Determination of Total Nitrogen, Organic Carbon Nitrate and Ammonia-nitrogen; and the Analysis of Plant Litters. Chapter IV discusses Cation-exchange Methods; and Chapter V, Analysis of Soluble Salts.

Appendix I takes up a discussion of Units Employed in Reporting Soil Analyses, Relationship between Analytical Units; and A Guide to the Interpretation of Chemical Analysis of New Zealand Soils. Appendix II discusses the Determination of pH by the Quinhydrone-Electrode Method; and Appendix III, The Operation of the Beckman Flame Photometer. There is a complete list of references, and a good index.

The author particularly does a good job in discussing the interpretation of chemical analysis, and in pointing out the need of characterizing the properties of soil types by both physical and chemical analysis.—R. Earl Storie.

GROWING COTTON


As the title indicates this book takes the reader step by step through the operations involved in growing cotton, beginning with the question: "Should I grow cotton" and ending with, "How can I get the most for my cotton". In between, all of the practices and procedures for probably growing and marketing cotton are arranged in a chronological fashion.

The material is based primarily on results of research at Federal and state agricultural experiment stations across the Cotton Belt. In addition the author drew heavily on his own experience growing cotton in north central Louisiana, as a teacher of agriculture in the Red River Delta and as a staff member of the National Cotton Council of America.

The book is written in a non-technical language and should be easy reading for the farmer and student alike. The book attempts to cover production practices as they vary throughout the Cotton Belt but is necessarily limited in scope. Because of its general nature it should be supplemented with specific local recommendations from agricultural education authorities.

With the 1955 population making greater demands for food and fiber, the book should be equally valuable to anyone interested in the most up-to-date methods of producing and marketing cotton in the United States.